XR-1100

SERVICE MANUAL

Ver 1.2 2004.09

US Model
Canadian Model
UK Model
E Model

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-36SZ10-32

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model only)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
17 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1% total harmonic distortion.

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.13 % (WRMS)
Frequency response	30 – 15,000 Hz
Signal-to- noise ratio	55 dB

Tuner section

FM

Tuning range □	
US and Canadian models :	87.5 – 107.9 MHz
E and UK models:	FM tuning interval :□ 50kHz/ 200kHz switchable 87.5 -108.0MHz (at 50 kHz step) 87.5 -107.9 MHz (at 200 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	9 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	
	0.7% (stereo), 0.4% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

AM

Tuning range	
US and Canadian models :	530 – 1,710 kHz
E and UK models:	AM tuning interval: 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	45 W × 4 (at 4 ohms)

– Continued on next page –

FM/AM CASSETTE CAR STEREO

9-870-060-13
2004I05-1
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Sony Corporation
e Vehicle Company
Published by Sony Engineering Corporation

SONY®

General

Outputlead	Power antenna relay control lead
Tone controls	Bass ±8 dB at 100 Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 ×177 mm ($7\ ^1/_2 \times 2\ ^3/_8 \times 7$ in.) (w/h/d) not incl. projecting parts and controls
Mounting dimension	Approx. 182 × 53 × 163 mm ($7\ ^1/_4 \times 2\ ^1/_8 \times 6\ ^1/_2$ in.) (w/h/d) not incl. projecting parts and controls
Mass	Approx. 1.2 kg (2 lb. 10 oz.)
Supplied accessories	Parts for installation and connections (1 set)

Design and specifications are subject to change without notice.

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Flexible Circuit Board Repairing

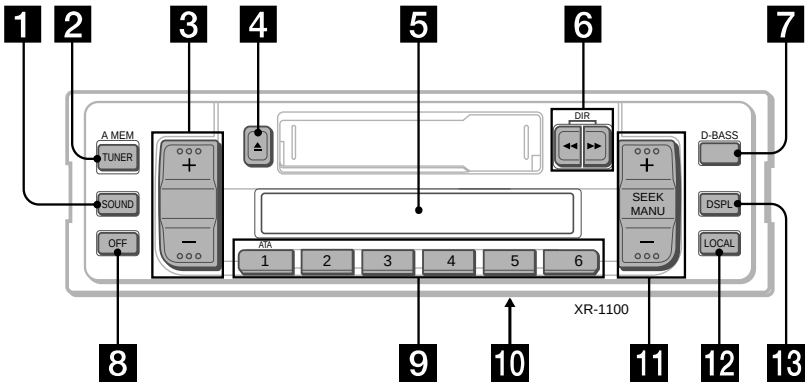
- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

This section is extracted from instruction manual.

Location of controls



Refer to the pages for further details.

1 **SOUND (control mode select) button 6, 9, 10**

2 **TUNER/A MEM (radio on • band select/ automatic memory) button 8, 9**

3 **(volume/bass/treble/balance/ fader control) buttons 6, 9**

4 **⏏ (eject) button 7**

5 **Display window**

6 **◀◀/▶▶ (fast winding)/DIR (tape transport direction change) buttons 7**

7 **D-BASS button 9**

8 **OFF button**

9 **During radio reception:**
Preset number buttons 9

During tape playback:

(Automatic Tuner Activation) button 7

10 **Frequency select switch (located on the bottom of the unit) (E and UK models only)**
See "Frequency select switch" in the Installation/Connections manual.

11 **SEEK/MANU button 8**

12 **LOCAL (local seek) button 8**

13 **DSPL (display mode change/time set) button 6**

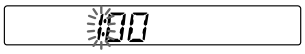
Setting the clock

The clock has a 12-hour digital indication.

For example, setting it to 10:08

1 **Display the time.**
(Press the DSPL button during unit operation.)

2 **Press the DSPL button for more than two seconds.**

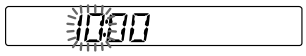


The hour digit blinks.

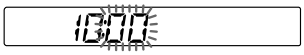
Set the hour digits.

to go forward

to go back



3 **Press the SOUND button momentarily.**

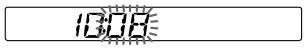


The minute digits blink.

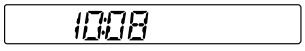
Set the minute digits.

to go forward

to go back



4 **Press the DSPL button momentarily.**



The clock activates.

Note
The clock cannot be set unless the power is turned on. Set the clock after you turn on the radio, or during tape playback.

(US and Canadian models)

Installation

Precautions

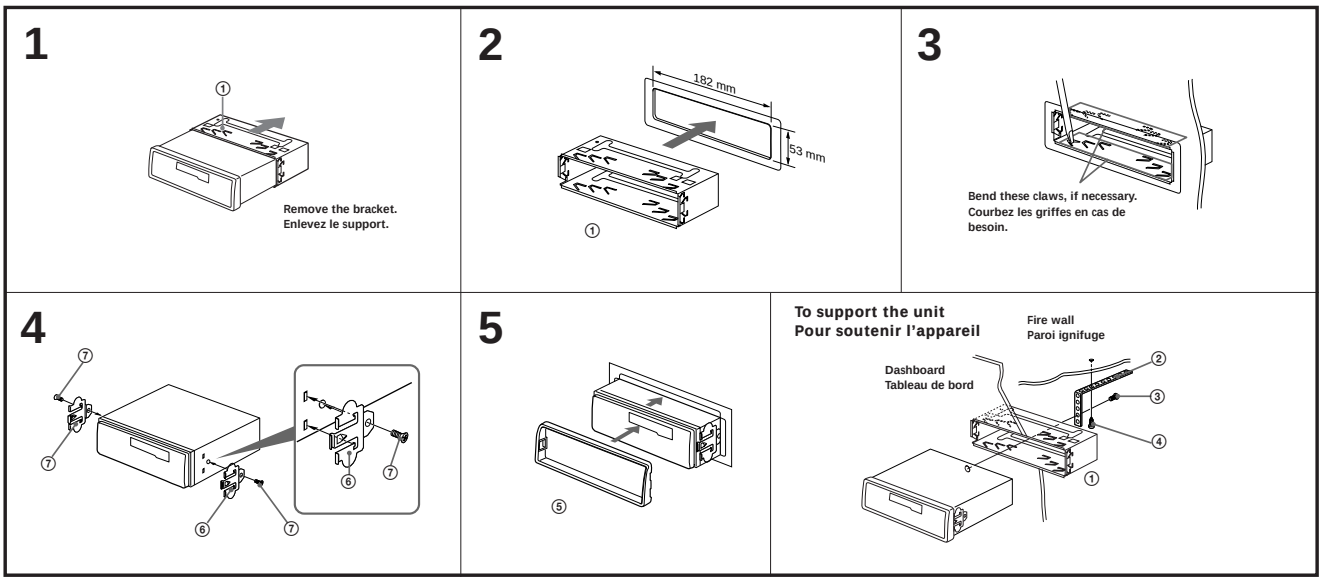
- Choose the installing location carefully so that the unit will not interfere with driving.
- Avoid installing the unit where it would be subject to high temperatures, such as direct sunlight or hot air from the heater, or where it would be subject to dust, dirt, or excessive vibration.
- Use only the supplied mounting hardware for safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

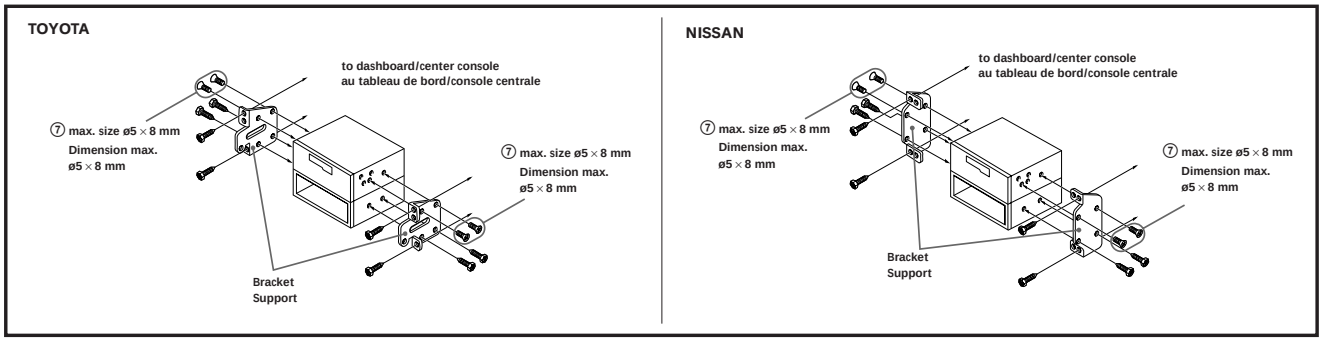
Mounting example

Installing in the dashboard



Mounting the unit in a Japanese car

This unit may not be installed in some makes of cars. In this case, consult your nearest Sony dealer.

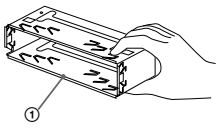


Note

To prevent malfunction, install only with the supplied screws ⑦.

Caution

Cautionary notice for handling the bracket ①. Handle the bracket carefully to avoid injuring your fingers.



Installation

Précautions

- Choisir soigneusement l'emplacement de l'installation, pour que l'appareil ne gêne pas la conduite.
- Eviter d'installer l'appareil dans un endroit exposé à des températures élevées, comme en plein soleil ou à proximité d'une bouche d'air chaud, ou dans un endroit exposé à de la poussière, de la saleté ou des vibrations violentes.
- Pour garantir un montage sûr, n'utiliser que le matériel fourni.

Réglage de l'angle de montage

Ajuster l'inclinaison à un angle inférieur à 20°.

Exemple de montage

Installation dans le tableau de bord

Installation de l'appareil dans une voiture japonaise

Cet appareil ne peut pas être installé dans certaines voitures. Consultez, dans ce cas, votre revendeur Sony.

Remarque

Pour éviter tout mauvais fonctionnement, utilisez uniquement les vis fournies ⑦ pour le montage.

Attention

Remarque importante pour la manipulation du support ①.
Manipulez précautionneusement le support pour éviter de vous blesser aux doigts.

(E and UK models)

Installation

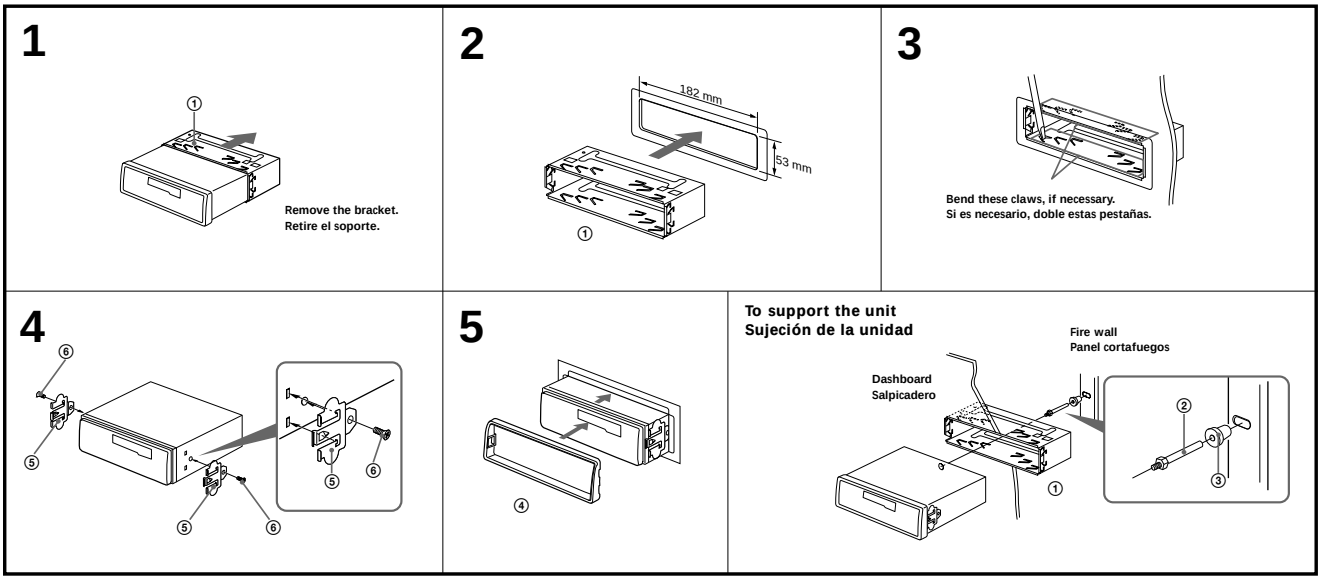
Precautions

- Choose the installing location carefully so that the unit will not interfere with the normal driving functions of the driver.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment
Adjust the mounting angle to less than 20°.

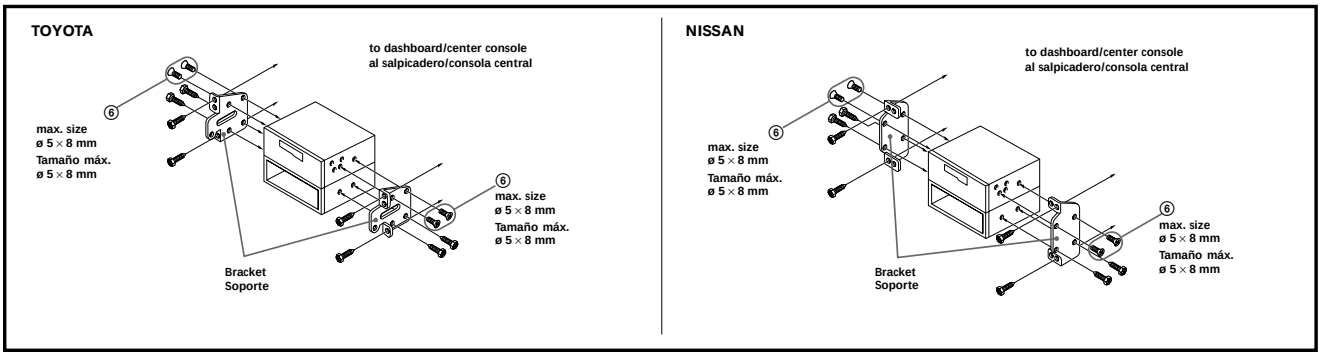
Mounting example

Installing in the dashboard



Mounting the unit in a Japanese car

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.



Note
To prevent malfunction, install only with the supplied screws ⑥.

Instalación

Precauciones

- Elija cuidadosamente el lugar de instalación de forma que la unidad no impida la conducción.
- Evite instalar la unidad donde pueda quedar sometida a altas temperaturas, como a la luz solar directa o al aire caliente de calefacción, o a polvo, suciedad, o vibraciones excesivas.
- Para realizar una instalación segura y firme, emplee solamente la ferretería de montaje suministrada.

Ajuste del ángulo de montaje
Ajuste el ángulo de montaje a menos de 20°.

Ejemplo de montaje

Instalación en el salpicadero

Montaje de la unidad en un automóvil japonés

Usted no podrá instalar esta unidad en algunos automóviles japoneses. En tal caso, consulte a su proveedor Sony.

Nota
Para evitar que se produzcan fallos, realice la instalación solamente con los tornillos suministrados ⑥.

Connections

Caution

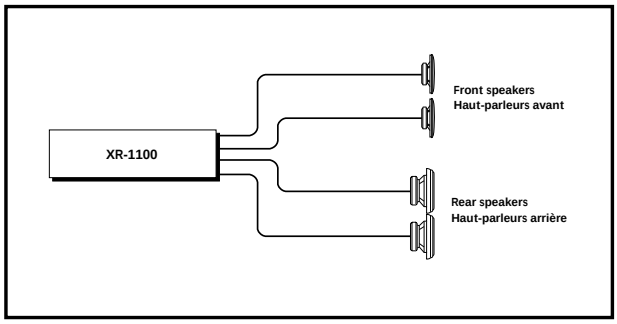
- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common ground point.**
- Be sure to insulate any loose unconnected wires with electrical tape for safety.

Connexions

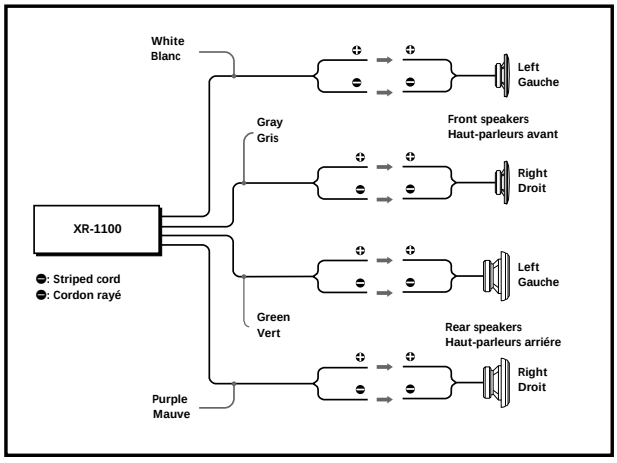
Pr cautions

- Cet appareil est conçu pour fonctionner uniquement sur courant continu de 12 V avec masse négative.
- Avant d'effectuer les connexions, débrancher la borne de terre de la batterie du véhicule pour éviter tout court-circuit.
- Brancher les fils d'entrée d'alimentation **jaune** et **rouge** seulement après avoir terminé tous les autres branchements.
- Veiller à ne pas raccorder le fil rouge d'entrée d'alimentation à la borne positive de 12 V qui est alimentée quand la clé de contact est sur la position accessoires.
- **Rassembler tous les fils de terre en un point de masse commun.**
- Afin de garantir une sécurité optimale, assurez-vous d'isoler correctement tout câble ou fil déconnecté ou lâche avec un ruban d'isolation électrique adéquat.

Connection diagram/Sch mas de connexion



Speaker connections/Raccordements des haut-parleurs



Notes on speaker connection

- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

Remarques sur le raccordement des haut-parleurs

- *Utilisez des haut-parleurs d'une impédance de 4 à 8 ohms et d'une charge nominale efficace appropriée. Vous risquez sinon d'endommager les haut-parleurs.*
- *Ne raccordez pas les bornes du système de haut-parleur au châssis de la voiture et ne raccordez pas les bornes du haut-parleur droit à celles du haut-parleur gauche.*
- *Ne raccordez pas les haut-parleurs en parallèle.*
- *Ne raccordez pas de haut-parleurs actifs (dotés d'un amplificateur intégré) aux bornes de haut-parleurs de cet appareil. Vous risquez sinon d'endommager les haut-parleurs actifs. Veillez par conséquent à brancher des haut-parleurs passifs sur ces bornes.*

(E and UK models only)

Frequency select switch

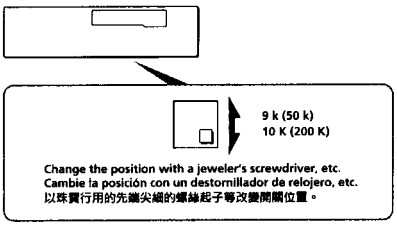
The AM (FM) tuning interval is factory-set to the 9K (50K) position. If the frequency allocation system of your country is based on 10 kHz (200 kHz) interval, set the switch on the bottom of the unit to the 10K (200K) position before making connections.

頻率選擇開關

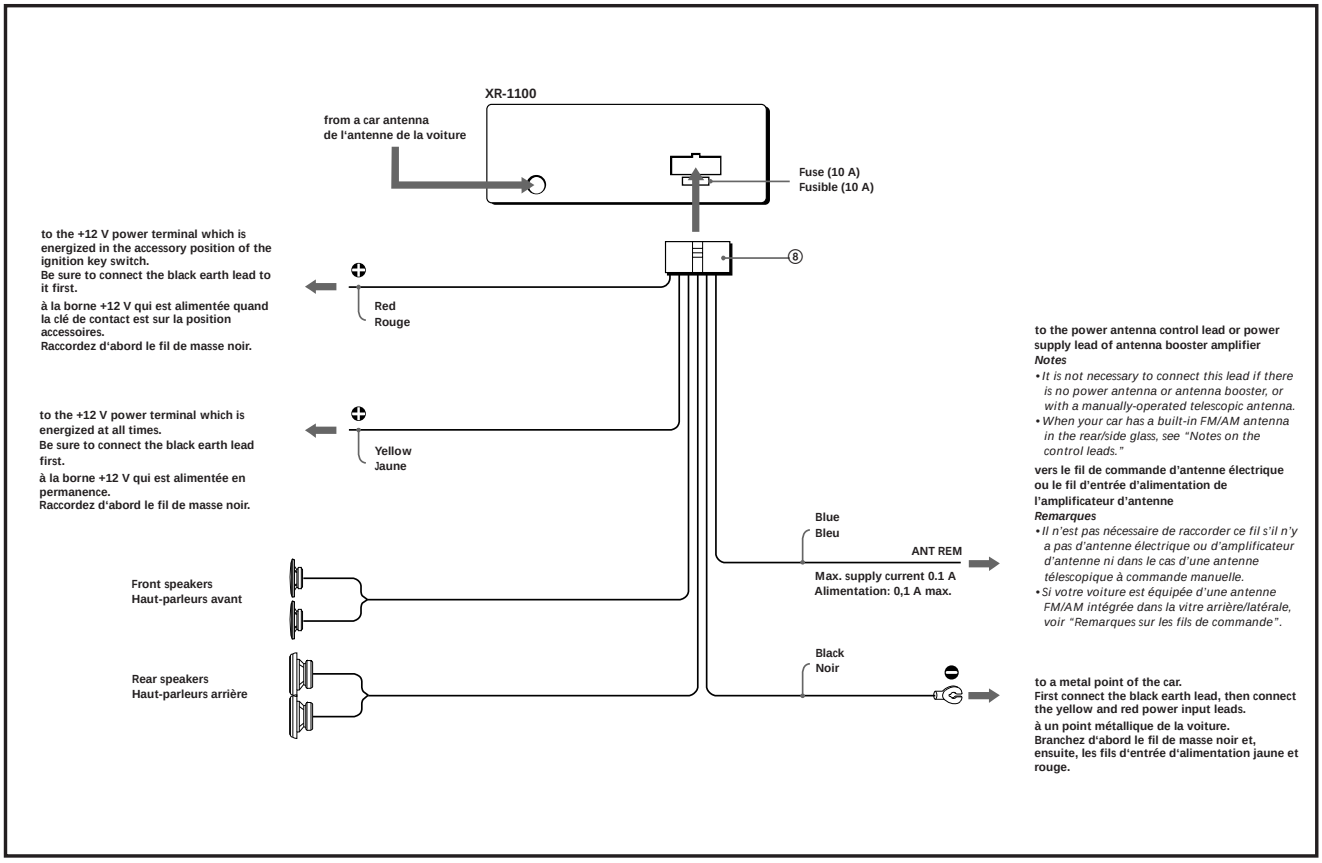
本裝置的 AM (FM) 調諧間隔在出廠以前被設定在 "9 K (50 K)" 位置上。若貴地的頻率分配系統是以 "10 kHz (200 kHz)間隔為基礎的，連接以前請先把本機機底的選擇開關設定在 "10 K (200 K)" 之處。

Selector de frecuencia

El intervalo de sintonía de AM (FM) ha sido ajustado en fábrica a la posición 9K (50K). Si el sistema de asignación de frecuencias de su país se basa en el intervalo de 10 kHz (200 kHz), ponga este selector, situado en la base de la unidad, en la posición 10K (200K) antes de realizar las conexiones.


9 k (50 k)
10 K (200 K)
Change the position with a jeweler's screwdriver, etc.
Cambie la posición con un destornillador de relojero, etc.
以珠寶行用的先端尖細的螺絲起子等改變開關位置。

Connection example/Exemple de connexion


XR-1100
from a car antenna
de l'antenne de la voiture
Fuse (10 A)
Fusible (10 A)
to the +12 V power terminal which is energized in the accessory position of the ignition key switch.
Be sure to connect the black earth lead to it first.
à la borne +12 V qui est alimentée quand la clé de contact est sur la position accessoires.
Raccordez d'abord le fil de masse noir.
Red
Rouge
to the +12 V power terminal which is energized at all times.
Be sure to connect the black earth lead first.
à la borne +12 V qui est alimentée en permanence.
Raccordez d'abord le fil de masse noir.
Yellow
Jaune
Blue
Bleu
ANT REM
Max. supply current 0.1 A
Alimentation: 0,1 A max.
Front speakers
Haut-parleurs avant
Rear speakers
Haut-parleurs arrière
Black
Noir
to the power antenna control lead or power supply lead of antenna booster amplifier
Notes
• It is not necessary to connect this lead if there is no power antenna or antenna booster, or with a manually-operated telescopic antenna.
• When your car has a built-in FM/AM antenna in the rear/side glass, see "Notes on the control leads."
vers le fil de commande d'antenne électrique ou le fil d'entrée d'alimentation de l'amplificateur d'antenne
Remarques
• Il n'est pas nécessaire de raccorder ce fil s'il n'y a pas d'antenne électrique ou d'amplificateur d'antenne ni dans le cas d'une antenne télescopique à commande manuelle.
• Si votre voiture est équipée d'une antenne FM/AM intégrée dans la vitre arrière/latérale, voir "Remarques sur les fils de commande".
to a metal point of the car.
First connect the black earth lead, then connect the yellow and red power input leads.
à un point métallique de la voiture.
Branchez d'abord le fil de masse noir et, ensuite, les fils d'entrée d'alimentation jaune et rouge.

Notes on the control leads

- *The power antenna control lead (blue) supplies 12V DC when you turn on the unit.*
- *When your car has a built-in FM/AM antenna in the rear/side glass, it is necessary to connect the power antenna control lead (blue) or the accessory power input lead (red) to the power terminal of the existing antenna booster. For details, consult your dealer.*
- *A power antenna without relay box cannot be used with this unit.*

Remarques sur les fils de commande

- *Le fil de commande de l'antenne électrique (bleu) fournit une alimentation de + 12 V CC lorsque vous mettez l'appareil sous tension.*
- *Si votre voiture est équipée d'une antenne FM/AM intégrée dans la vitre arrière/latérale, vous devez raccorder le fil de commande d'antenne électrique (bleu) ou le fil d'entrée d'alimentation d'accessoire (rouge) à la borne d'alimentation de l'amplificateur d'antenne existant. Pour plus de détails, consultez votre revendeur.*
- *Une antenne électrique sans boîtier de relais ne peut être utilisée avec cet appareil.*

Removing the unit

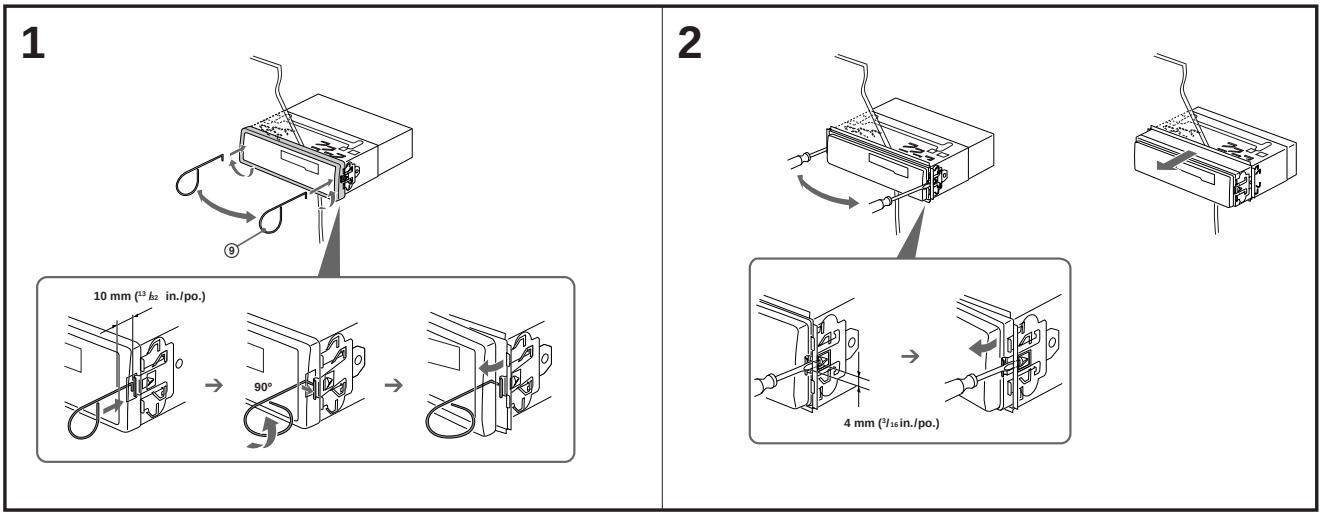
1 **Insert the supplied tool ⑨ between the unit and the frame, and rotate 90° to release the hidden mounting spring. Repeat on the opposite side and remove the frame.**

2 **Insert a flathead screwdriver between the bracket and mounting spring. Gently pry the spring toward the unit while pulling the unit out a little. Repeat on the opposite side and remove the unit.**

Retrait de l'appareil

1 **Insérez l'outil ⑨ fourni entre l'appareil et le cadre et faites-le pivoter de 90° de manière à dégager le ressort de montage dissimulé. Répétez l'opération de l'autre côté et retirez le cadre.**

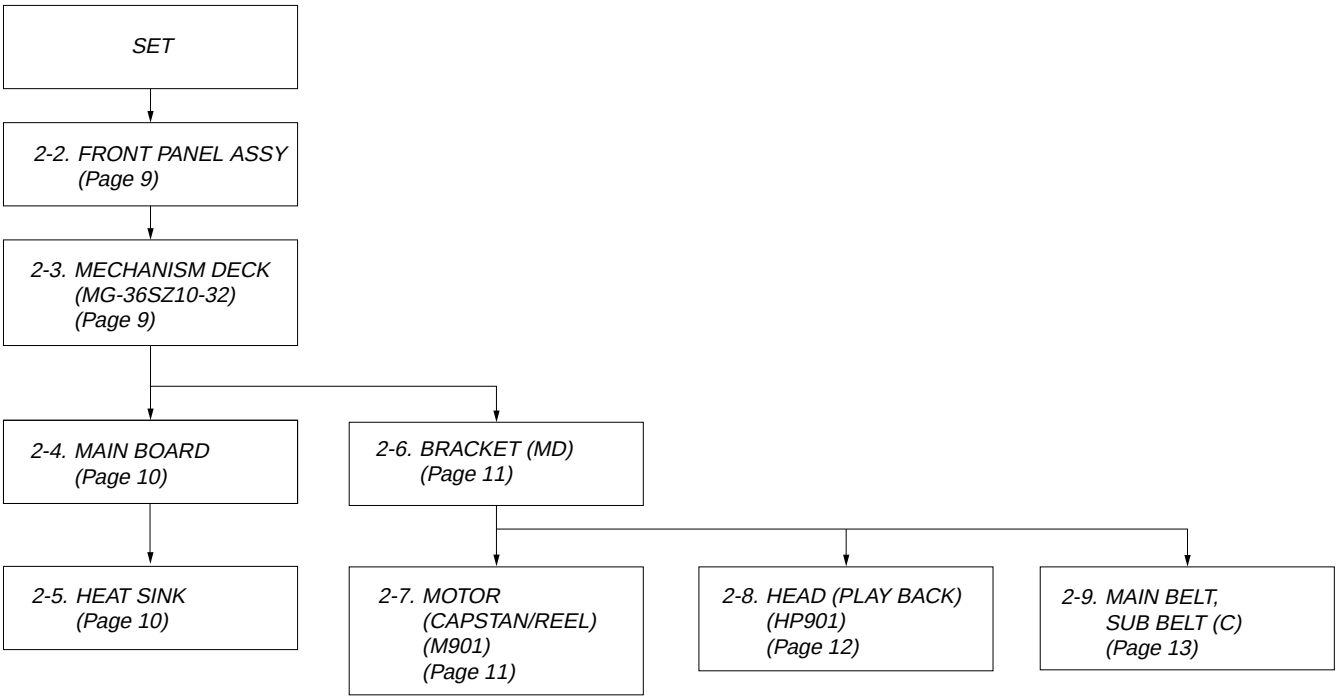
2 **Insérez un tournevis à lame plate entre le support et le ressort de montage. Exercez un léger mouvement de levier en direction de l'appareil tout en tirant un peu sur l'appareil. Répétez l'opération de l'autre côté et retirez l'appareil.**



SECTION 2
DISASSEMBLY

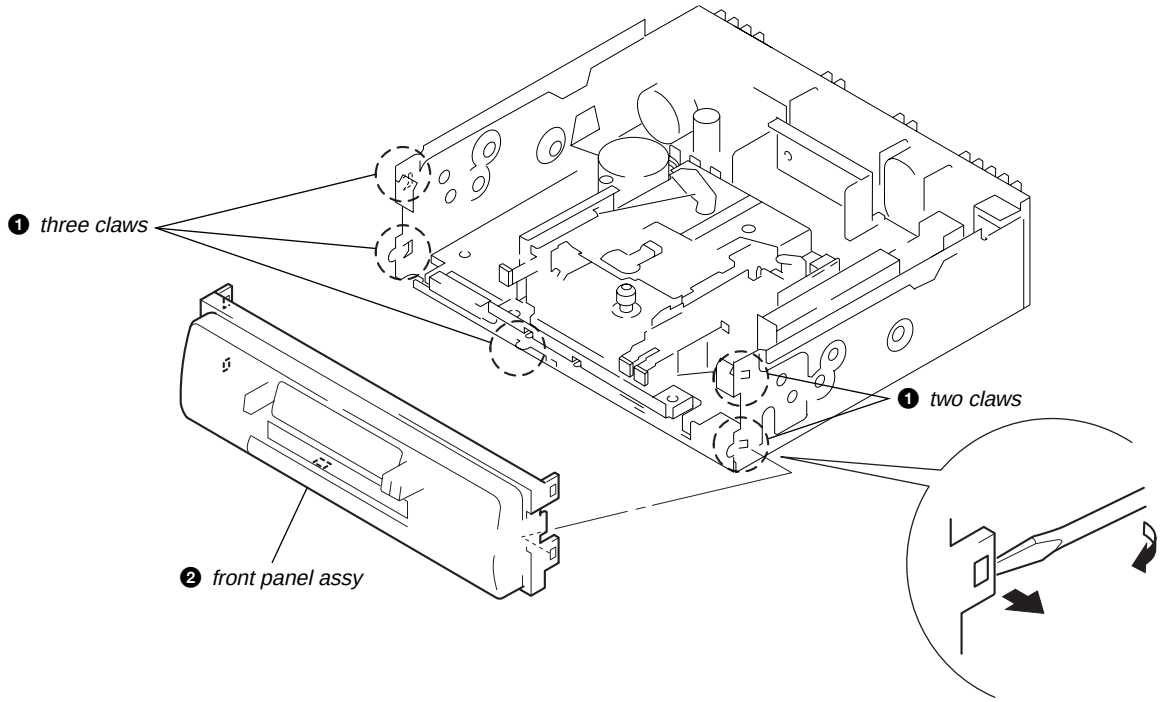
• This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW

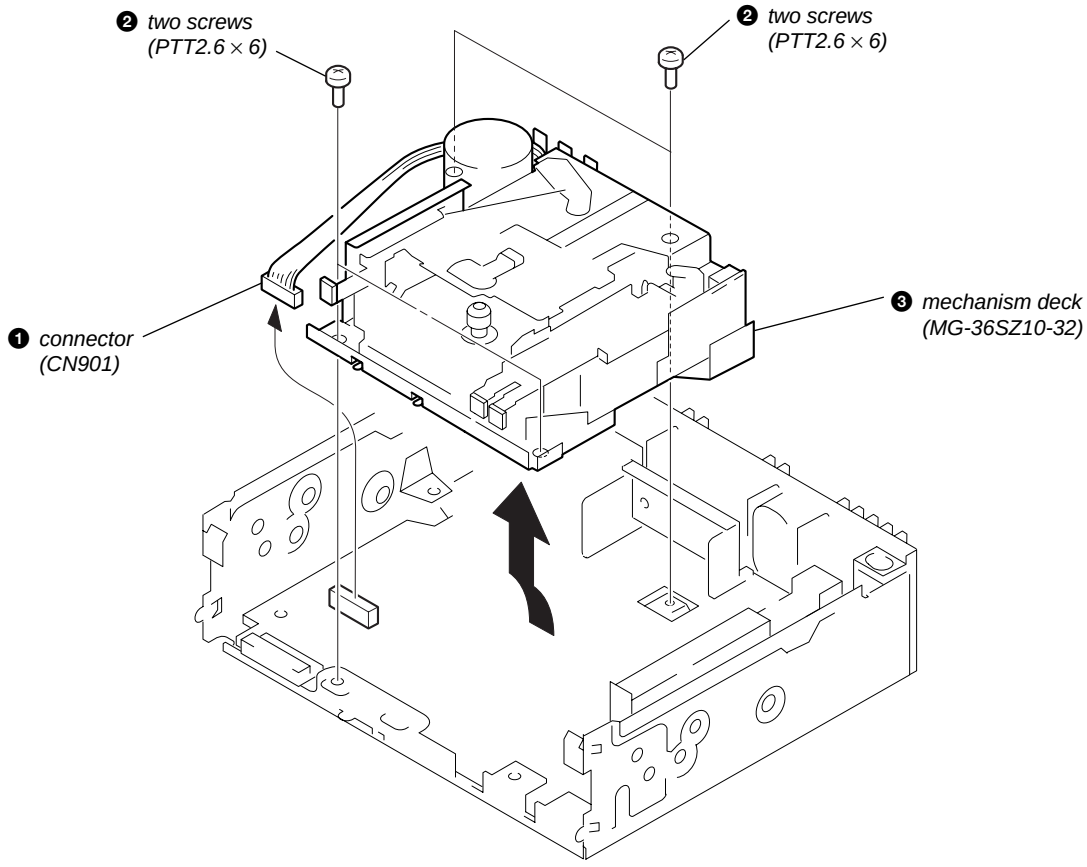

SET
2-2. FRONT PANEL ASSY (Page 9)
2-3. MECHANISM DECK (MG-36SZ10-32) (Page 9)
2-4. MAIN BOARD (Page 10)
2-6. BRACKET (MD) (Page 11)
2-5. HEAT SINK (Page 10)
2-7. MOTOR (CAPSTAN/REEL) (M901) (Page 11)
2-8. HEAD (PLAY BACK) (HP901) (Page 12)
2-9. MAIN BELT, SUB BELT (C) (Page 13)

Note: Follow the disassembly procedure in the numerical order given.

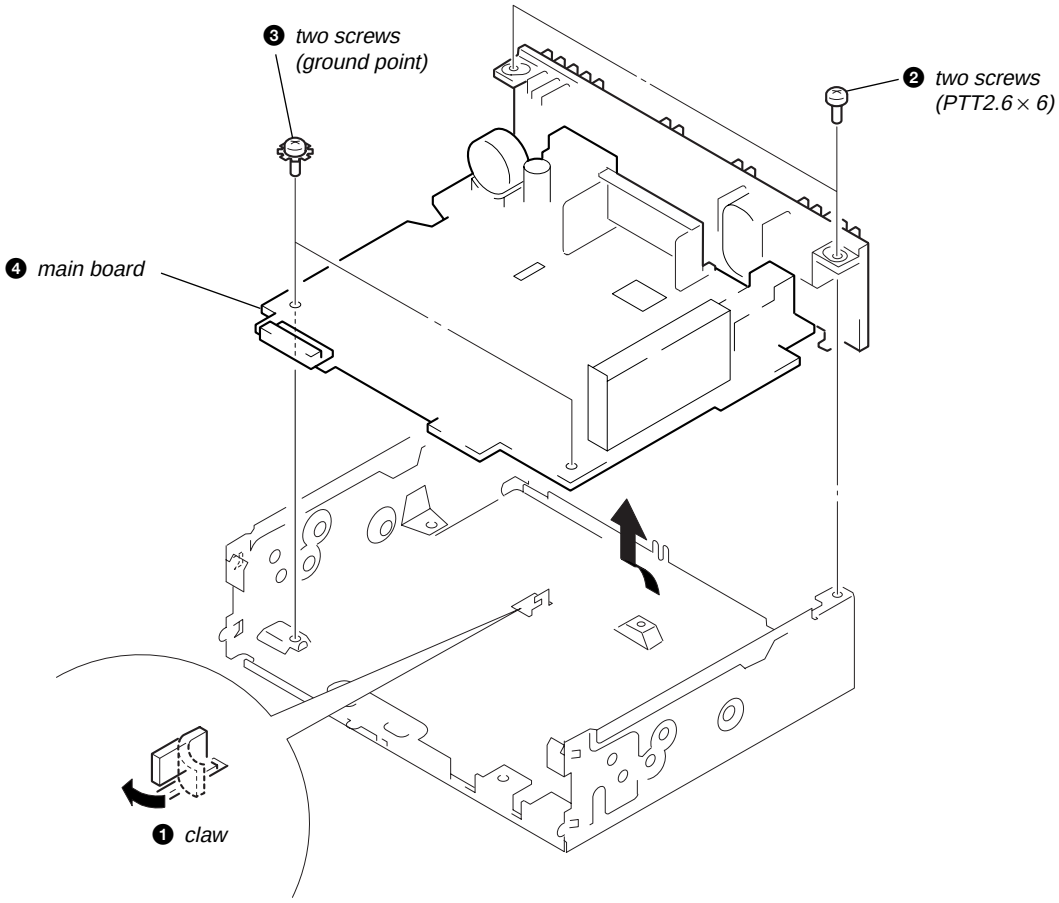
2-2. FRONT PANEL ASSY



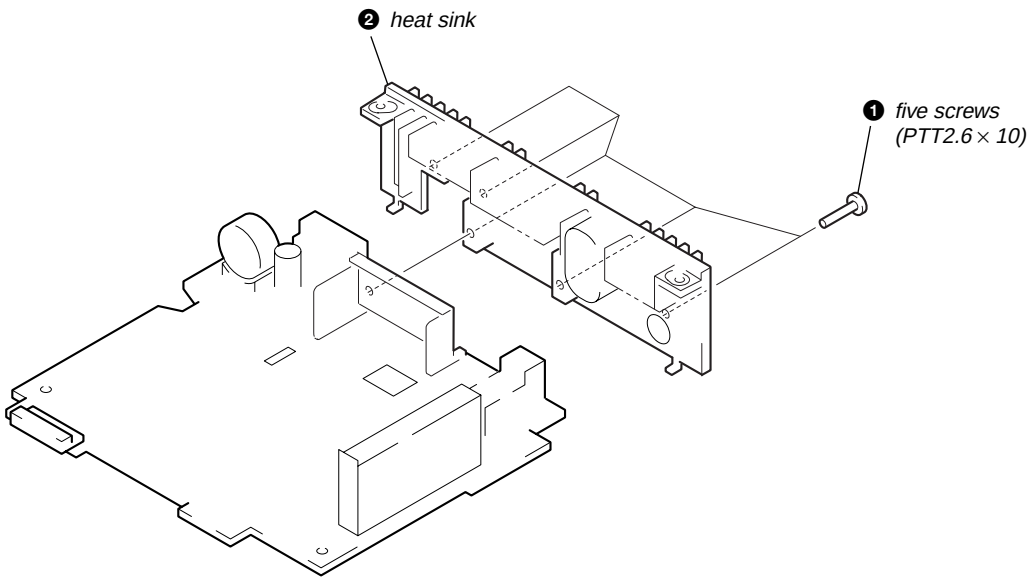
2-3. MECHANISM DECK (MG-36SZ10-32)



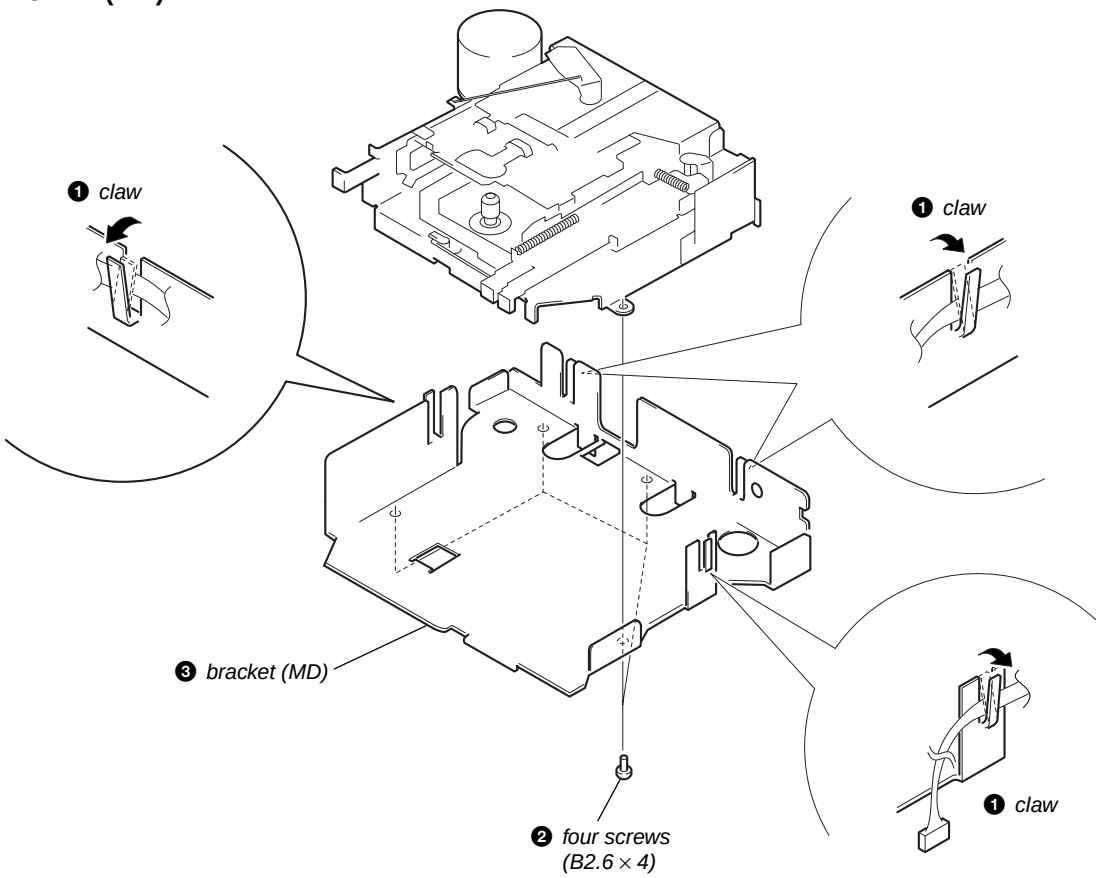
2-4. MAIN BOARD



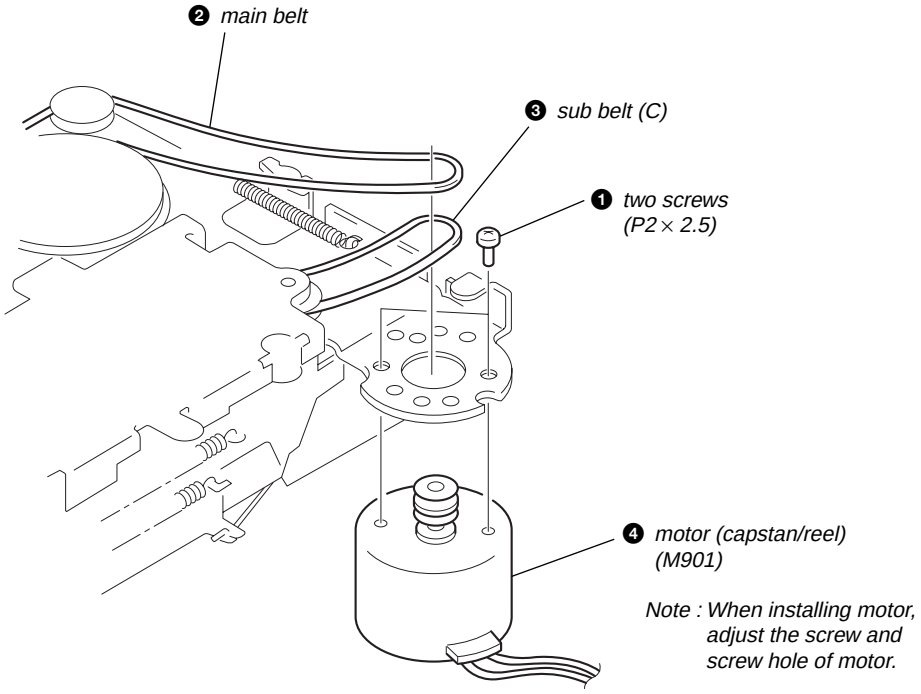
2-5. HEAT SINK



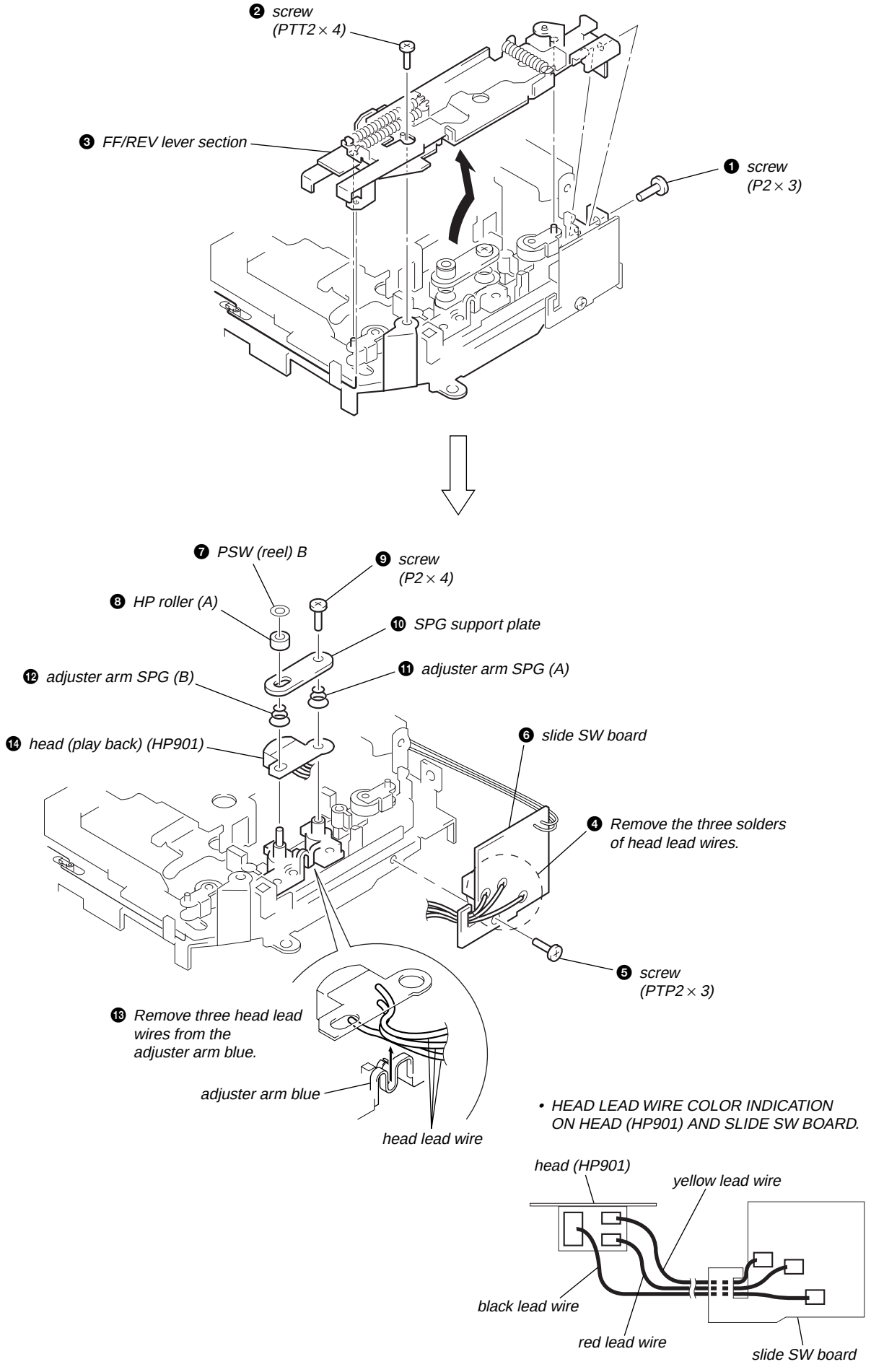
2-6. BRACKET (MD)



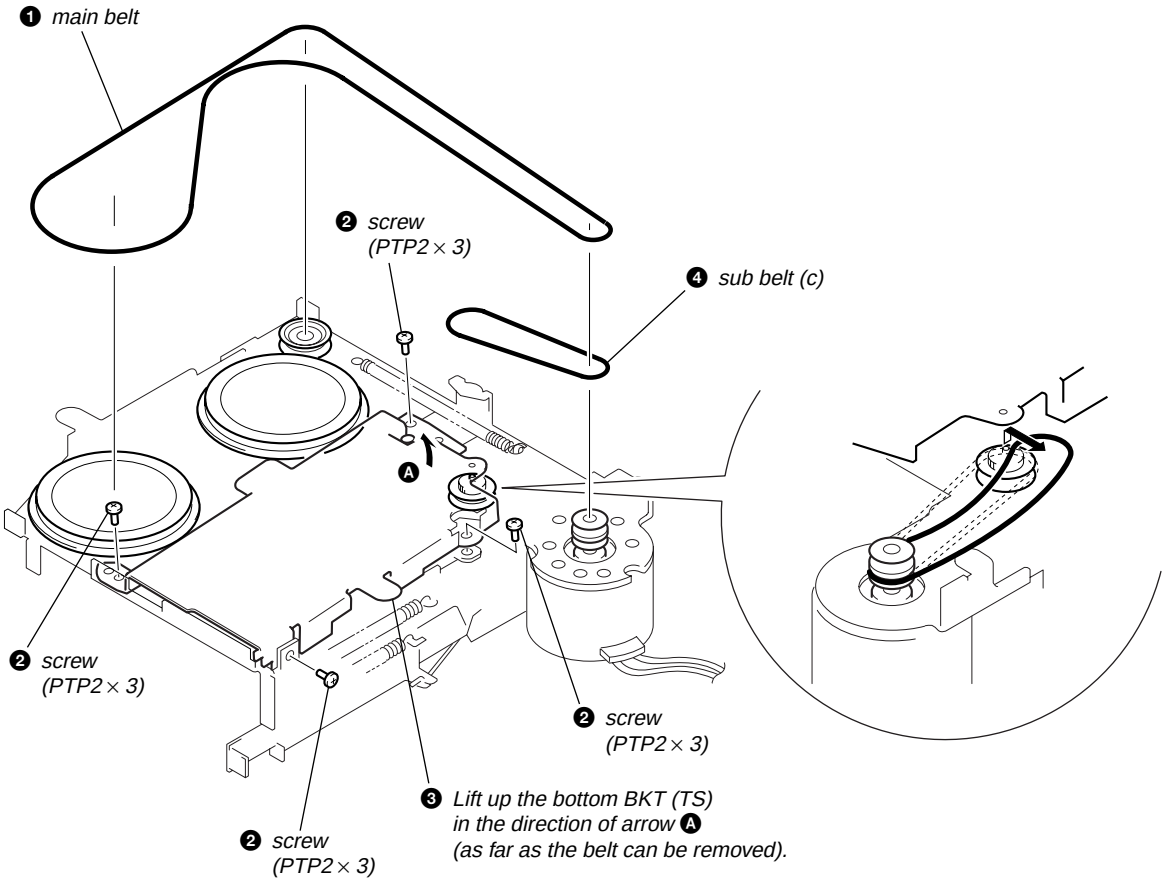
2-7. MOTOR (CAPSTAN/REEL) (M901)



2-8. HEAD (PLAY BACK) (HP901)


❷ screw (PTT2 × 4)
❸ FF/REV lever section
❶ screw (P2 × 3)
❼ PSW (reel) B
❾ screw (P2 × 4)
❽ HP roller (A)
❿ SPG support plate
⓬ adjuster arm SPG (B)
⓫ adjuster arm SPG (A)
⓮ head (play back) (HP901)
❻ slide SW board
❹ Remove the three solders of head lead wires.
❺ screw (PTP2 × 3)
⓭ Remove three head lead wires from the adjuster arm blue.
adjuster arm blue
head lead wire
• HEAD LEAD WIRE COLOR INDICATION ON HEAD (HP901) AND SLIDE SW BOARD.
head (HP901)
yellow lead wire
black lead wire
red lead wire
slide SW board

2-9. MAIN BELT, SUB BELT (C)


❶ main belt
❷ screw (PTP2 × 3)
❹ sub belt (c)
Ⓐ
❷ screw (PTP2 × 3)
❷ screw (PTP2 × 3)
❸ Lift up the bottom BKT (TS) in the direction of arrow Ⓐ (as far as the belt can be removed).
❷ screw (PTP2 × 3)

SECTION 3
MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
   playback head pinch roller
   rubber belt capstan
   idler
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the power supply voltage (14.4 V) unless otherwise noted.

Note: With this set, it is not necessary to apply suitable locking compound to the parts after the azimuth adjustment.

• Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	2.46 – 5.39 mN•m (25 – 55 g•cm) (0.35 – 0.76 oz•inch)
Forward Back Tension	CQ-102C	0.15 – 0.39 mN•m (1.5 – 4 g•cm) (0.02 – 0.06 oz•inch)
Reverse	CQ-102RC	2.46 – 5.39 mN•m (25 – 55 g•cm) (0.35 – 0.76 oz•inch)
Reverse Back Tension	CQ-102RC	0.15– 0.39 mN•m (1.5 – 4 g•cm) (0.02 – 0.06 oz•inch)
FF, REW	CQ-201B	4.91 – 14.70 mN•m (50 – 150 g•cm) (0.69 – 2.08 oz•inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 60 g (more than 2.12 oz)
Reverse	CQ-403R	

SECTION 4
ELECTRICAL ADJUSTMENTS

TAPE DECK SECTION | 0 dB= 0.775 V

1. The adjustments should be performed in the order given in this service manual.
2. The adjustments should be performed for both L-CH and R-CH.

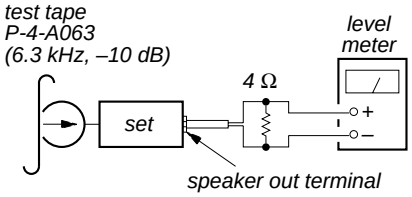
Test Tape

Type	Signal	Used for
P-4-A063	6.3 kHz, –10 dB	head azimuth adjustment
WS-48A	3 kHz, 0 dB	tape speed adjustment

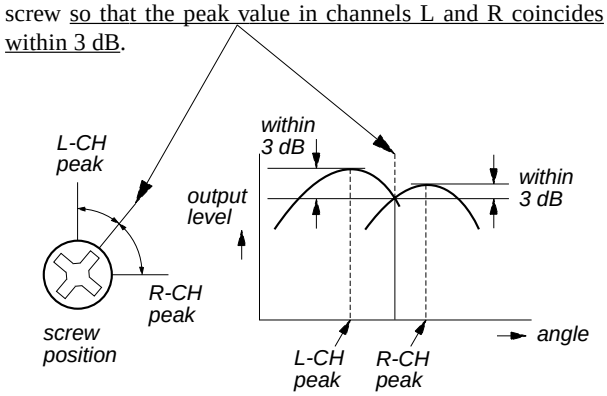
PB Head Azimuth Adjustment

Procedure:

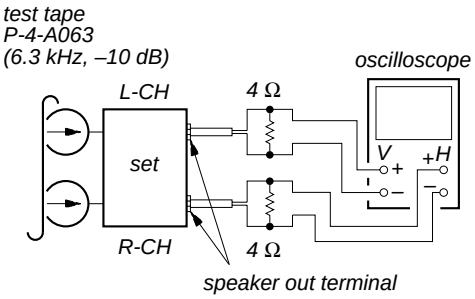
1. Put the set into the FWD PB mode.

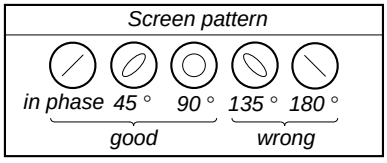


2. Turn the screw and check the output peak value. Adjust the screw so that the peak value in channels L and R coincides within 3 dB.



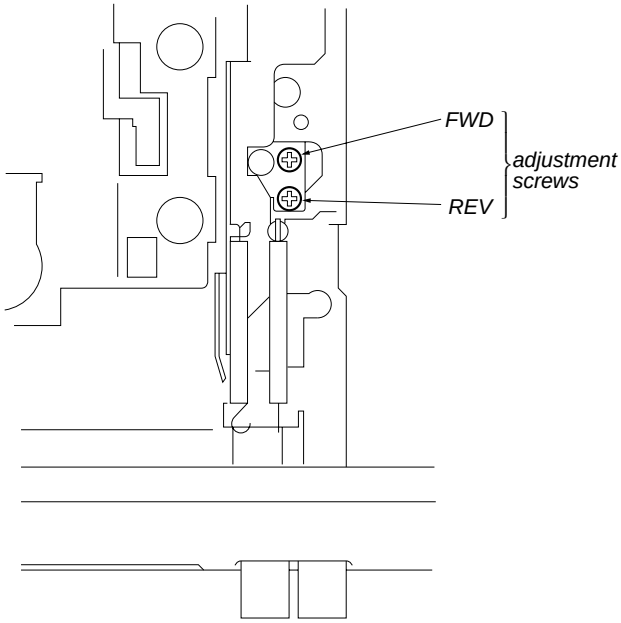
3. Check the phase in the FWD PB mode.





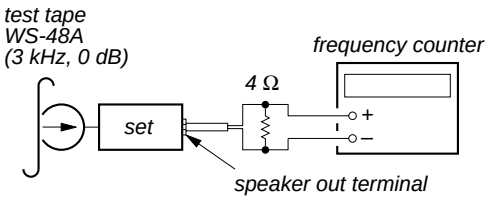
4. Repeat the above adjustment for the REV PB mode.
5. Check that output level difference between FWD PB mode and REV PB mode is within 4 dB.

Adjustment Location: PB head



Tape Speed Adjustment

Setting:



Procedure:

1. Put the set into the FWD PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the frequency counter becomes in 3,015 Hz.

Specified Value: 2,940 to 3,090 Hz

Adjustment Location: See page 17.

TUNER SECTION

0 dB=1 µV

Cautions during repair

When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

Note: Adjust the tuner section in the sequence shown below.

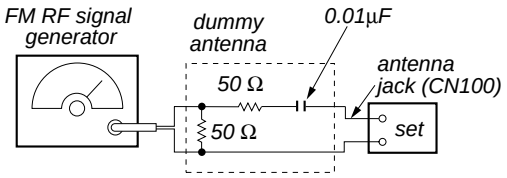
1. FM Auto Seek/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. AM Auto Seek/Stop Level Check

FM Auto Seek/Stop Level Adjustment

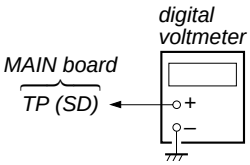
Setting:

TUNER button: FM

FREQUENCY SELECT switch (E and UK models): FM 50 K



Carrier frequency : 98.0 MHz (E and UK models)
: 98.1 MHz (US and Canadian models)
Output level : 28 dB (25.1 µV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)



Procedure:

1. Tune the set to 98.0 MHz (E and UK models) or 98.1 MHz (US and canadian models).
2. Connect the digital voltmeter to TP (SD) on MAIN board.
3. Adjust RV2 on TU100 so that the reading on the digital voltmeter changes point from low to high.

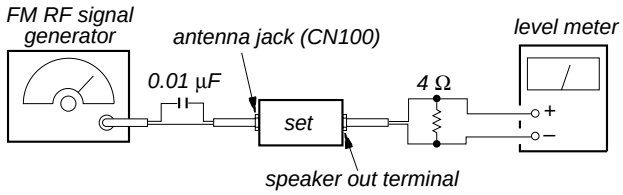
Adjustment Location: See page 17.

FM Stereo Separation Adjustment

Setting:

TUNER button: FM

FREQUENCY SELECT switch (E and UK models): FM 50 K



Carrier frequency : 98.0 MHz (E and UK models)
: 98.1 MHz (US and Canadian models)
Output level : 76 dB (6.3 mV)
Mode : stereo
Modulation : main: 1 kHz, 33.75 kHz deviation (45%)
sub: 1 kHz, 33.75 kHz deviation (45%)
19 kHz pilot: 7.5 kHz deviation (10%)

Procedure:

FM Stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV1 on TU100 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV1 on TU100 for minimum reading.

L-CH Stereo separation: Ⓐ-Ⓑ
R-CH Stereo separation: Ⓒ-Ⓓ
The separations of both channels should be equal.

Specification: Separation more than 26 dB

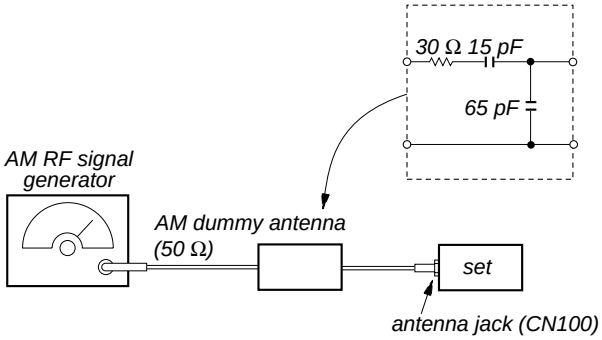
Adjustment Location: See page 17.

AM Auto Seek/Stop Level Check

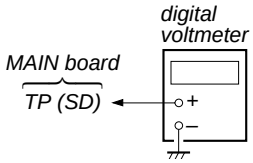
Setting:

TUNER button: AM

FREQUENCY SELECT switch (E and UK models): AM 9 K



Carrier frequency : 999 kHz (E and UK models)
: 1000 kHz (US and canadian models)
30% amplitude modulation by 1 kHz signal
Output level : 33 dB (44.7 µV) ± 6 dB



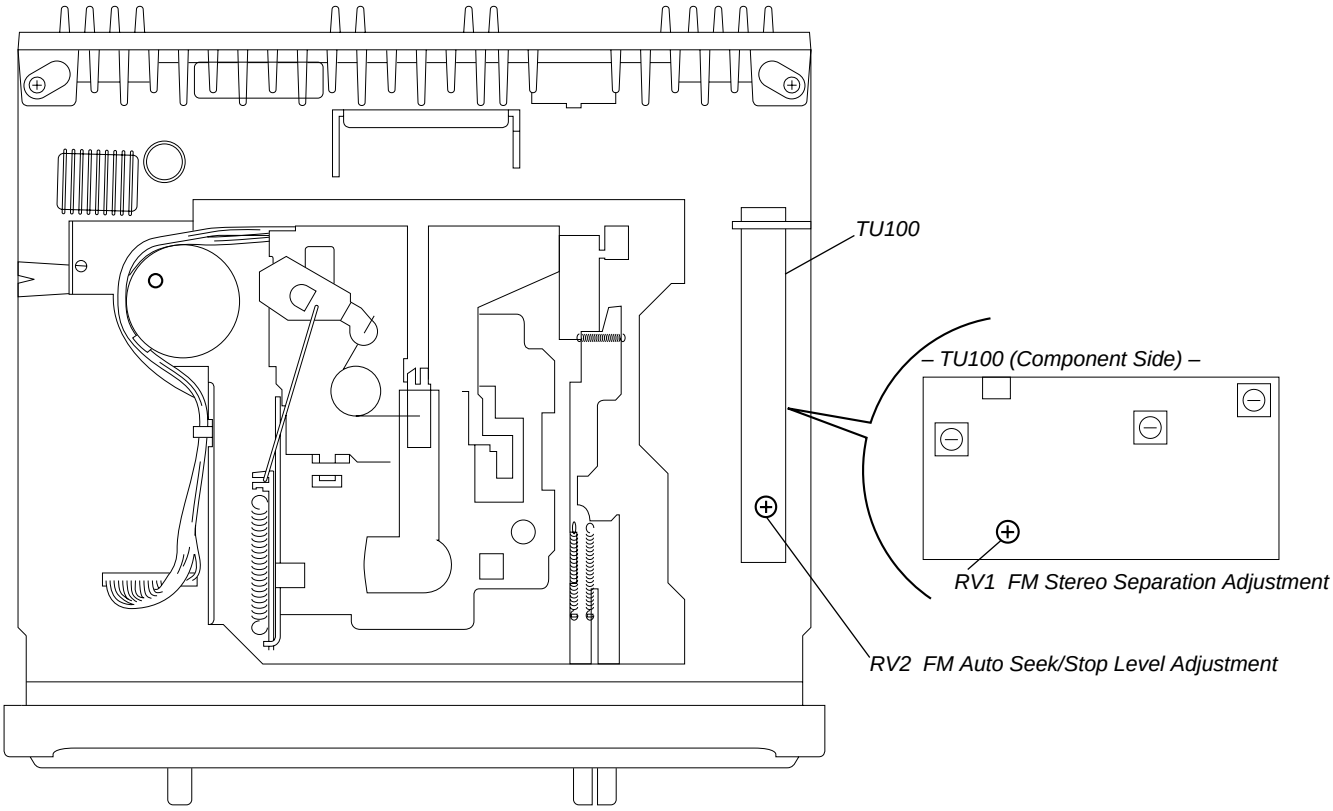
Procedure:

1. Tune the set to 999 kHz (E and UK models) or 1000 kHz (US and canadian models).
2. Connect the digital voltmeter to TP (SD) on MAIN board.
3. The reading on the digital voltmeter changes point from low to high.

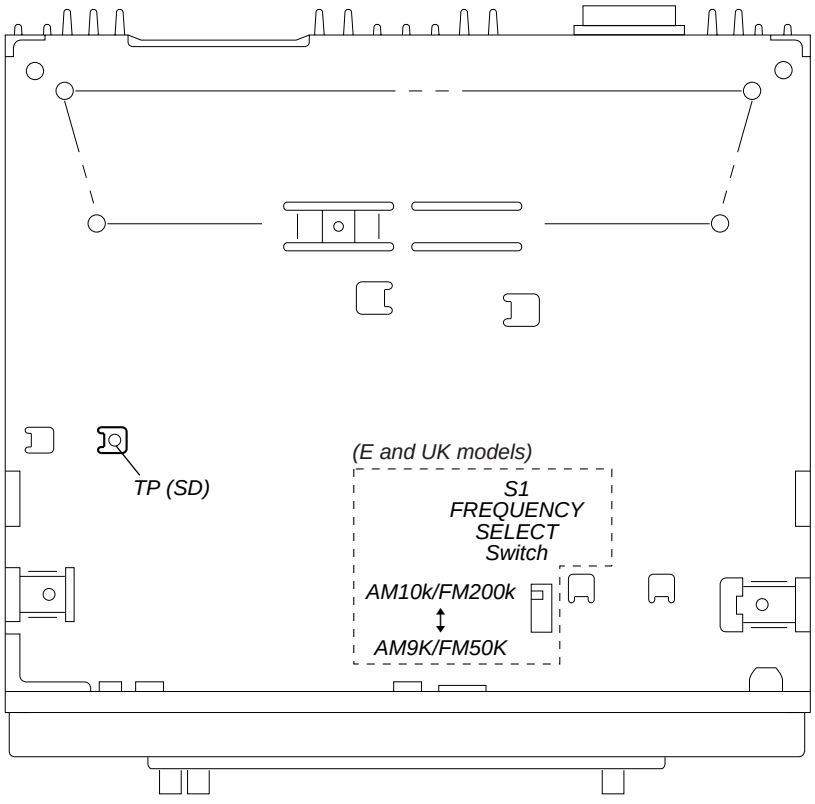
Adjustment Location: See page 17.

Adjustment Location:

– SET UPPER VIEW –



– SET BOTTOM VIEW –



SECTION 5
DIAGRAMS

5-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

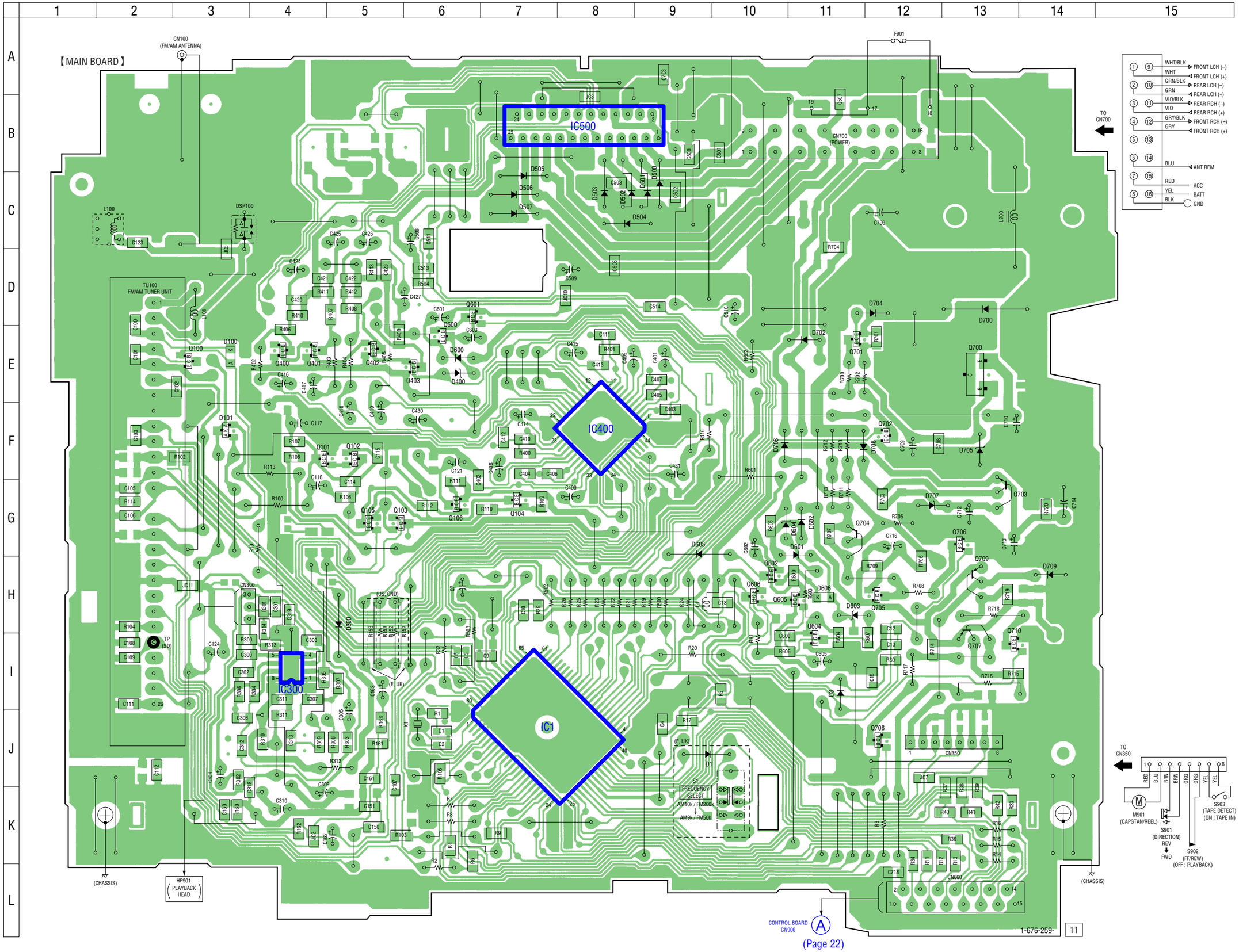
- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ● : Through hole.
- △ : internal component.
- ▬ : Pattern from the side which enables seeing.

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B + : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
  ⟨⟨ ⟩⟩ : TAPE PLAYBACK
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⋁ : TAPE PLAYBACK
- Abbreviation
  CND : Canadian model

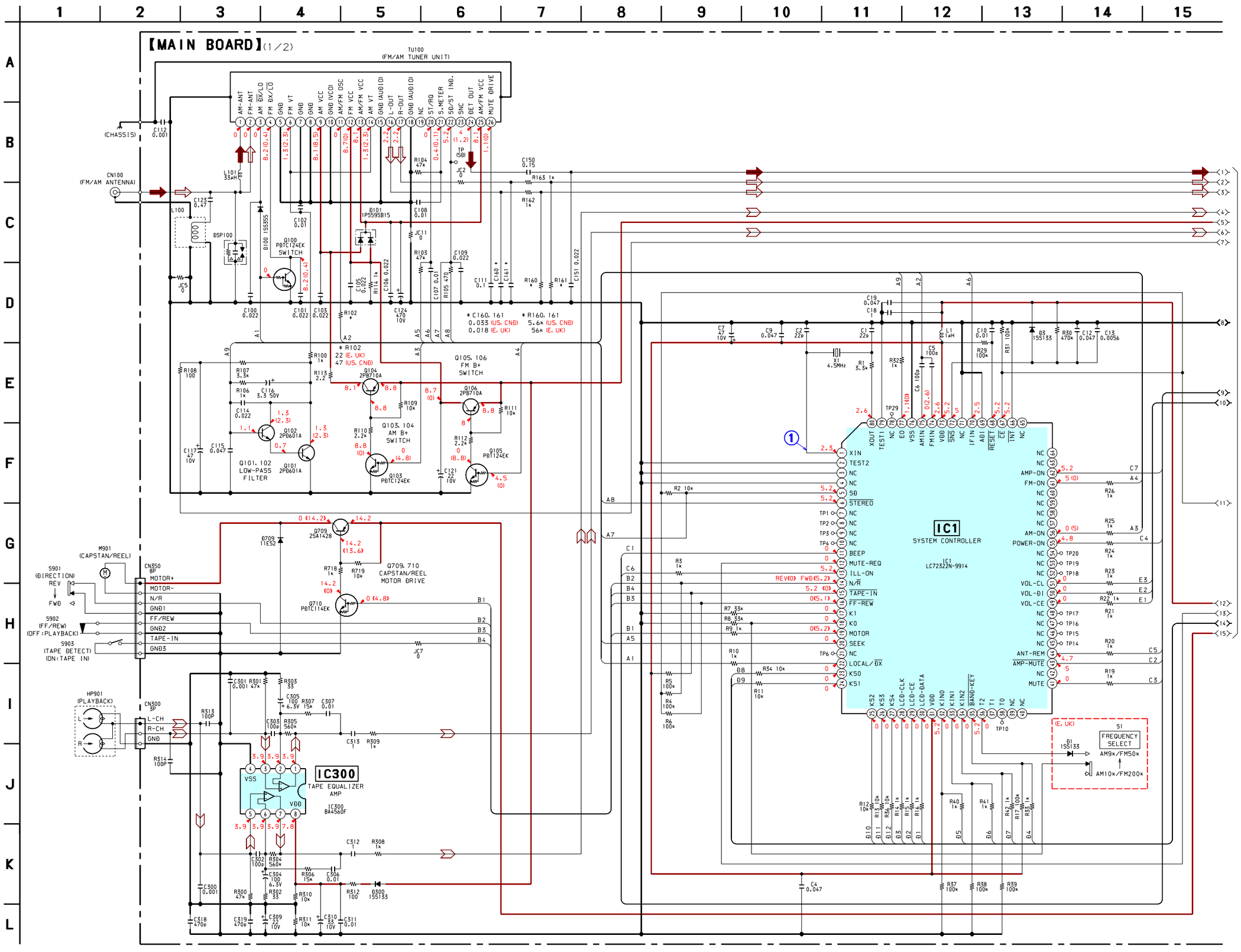
5-2. PRINTED WIRING BOARD – MAIN Board –



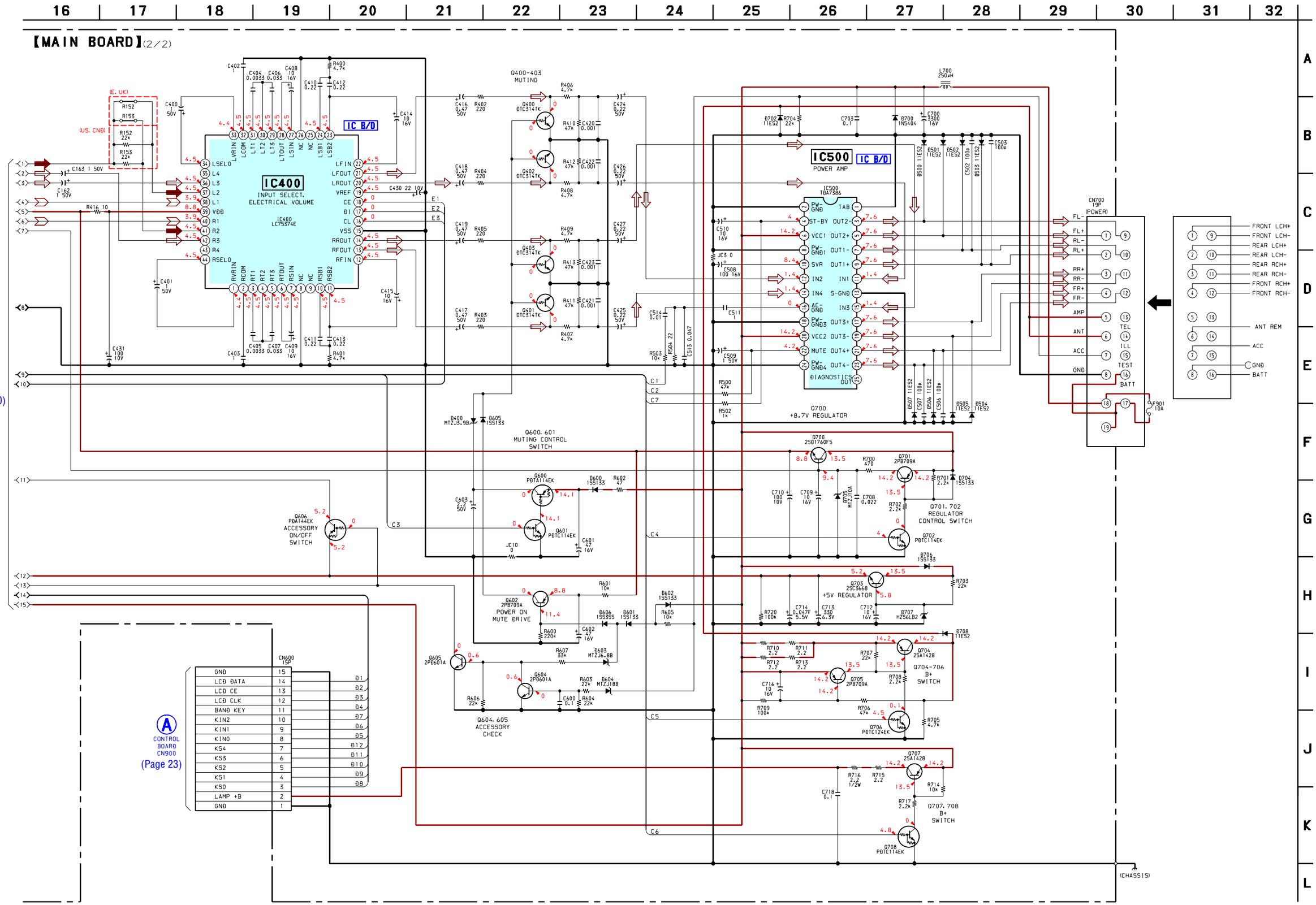
- **Semiconductor Location**

Ref. No.	Location
D1	J-9
D3	I-11
D100	E-3
D101	F-3
D300	H-5
D400	E-6
D500	C-9
D501	C-9
D502	C-8
D503	C-8
D504	C-8
D505	C-7
D506	C-7
D507	C-7
D600	E-6
D601	G-11
D602	G-11
D603	H-11
D604	G-10
D605	G-9
D606	H-11
D700	D-13
D702	E-11
D704	D-12
D705	F-13
D706	F-11
D707	G-12
D708	F-10
D709	H-14
IC1	J-7
IC300	I-4
IC400	F-8
IC500	B-8
Q100	E-3
Q101	F-4
Q102	F-5
Q103	G-5
Q104	G-7
Q105	G-5
Q106	G-6
Q400	E-4
Q401	E-4
Q402	E-5
Q403	E-6
Q600	E-6
Q601	D-6
Q602	H-10
Q604	I-11
Q605	H-11
Q606	H-10
Q700	E-13
Q701	E-11
Q702	F-12
Q703	G-13
Q704	G-11
Q705	H-12
Q706	G-13
Q707	I-13
Q708	J-12
Q709	H-13
Q710	I-13

5-3. SCHEMATIC DIAGRAM – MAIN Board (1/2) – • See page 24 for Waveform.

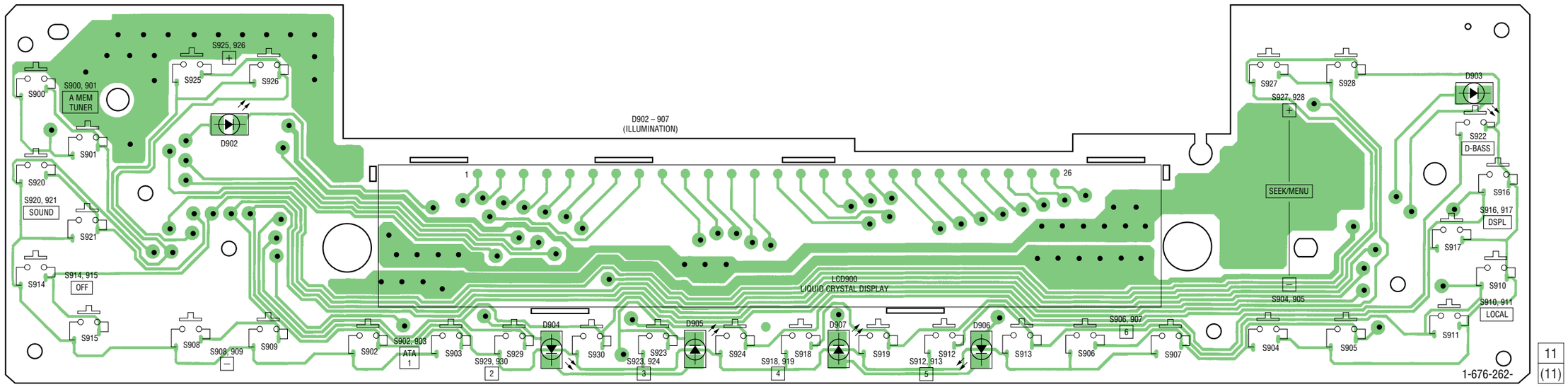


5-4. SCHEMATIC DIAGRAM – MAIN Board (2/2) – • See page 24 for IC Block Diagrams.



5-5. PRINTED WIRING BOARD – CONTROL Board –

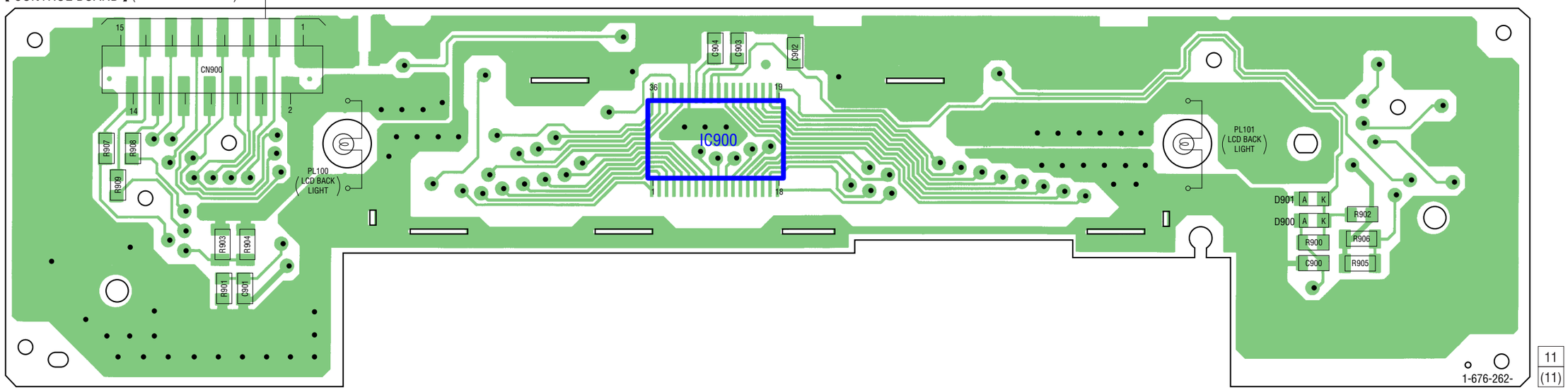
【 CONTROL BOARD 】(COMPONENT SIDE)



(Page 19)

Ⓐ MAIN BOARD CN600

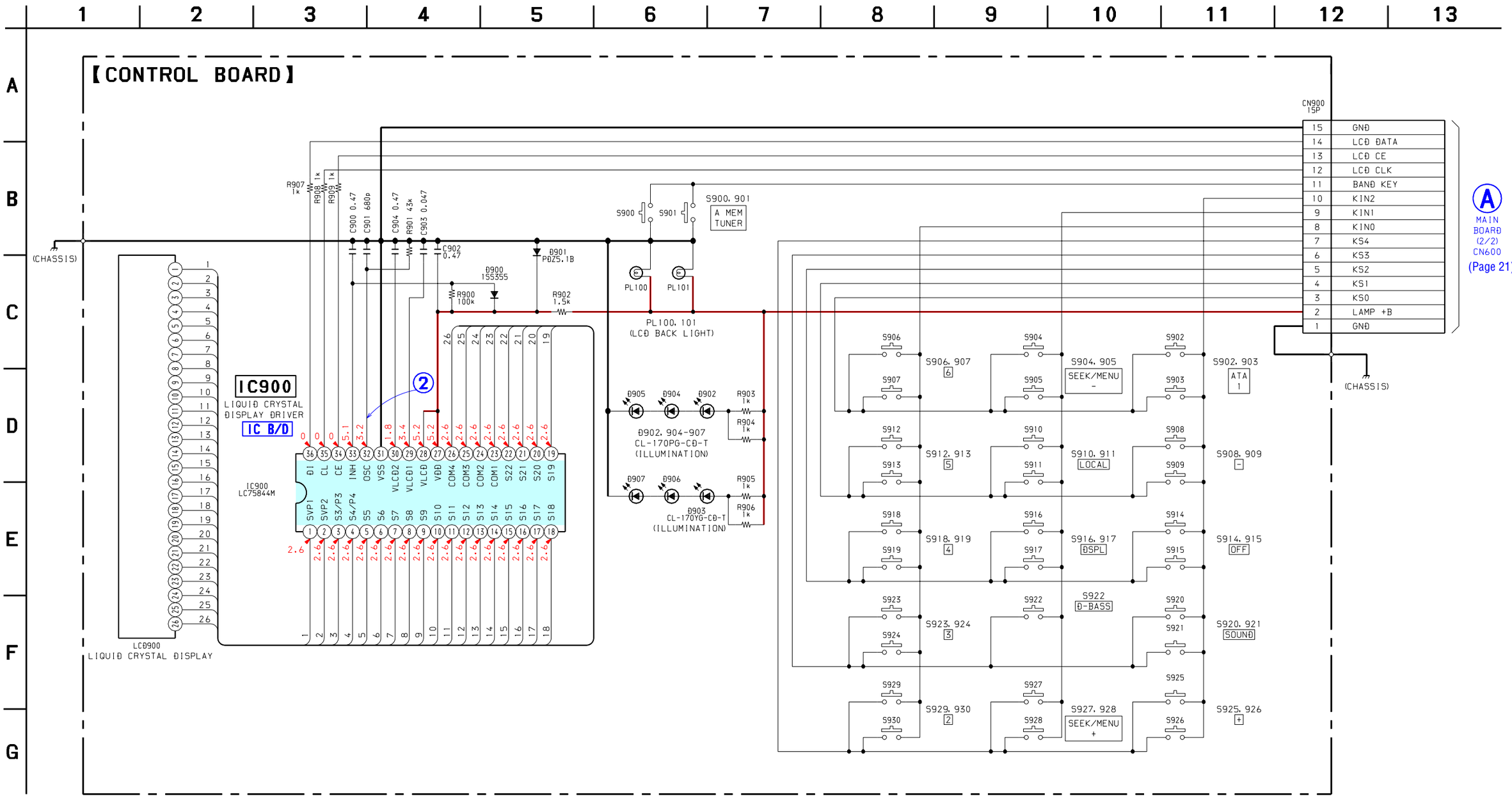
【 CONTROL BOARD 】(CONDUCTOR SIDE)



- **Semiconductor Location**

Ref. No.	Location
D900	G-12
D901	G-12
D902	B-3
D903	B-14
D904	D-6
D905	D-7
D906	D-9
D907	D-8
IC900	F-7

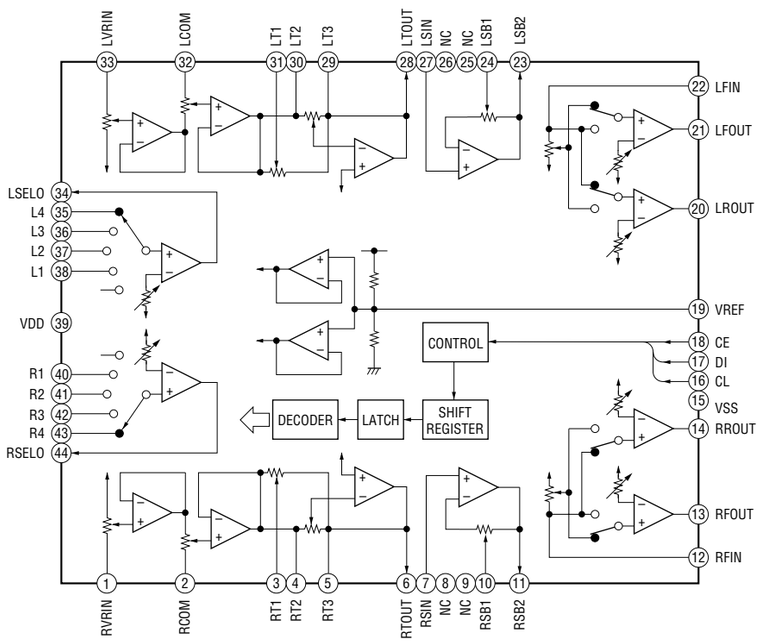
5-6. SCHEMATIC DIAGRAM – CONTROL Board – • See page 24 for IC Block Diagram. • See page 24 for Waveform.



• IC Block Diagrams

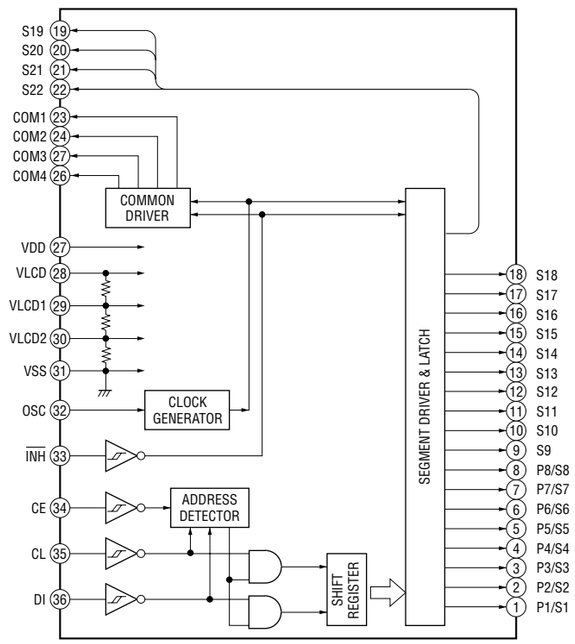
– MAIN Board –

IC400 LC75374E



– CONTROL Board –

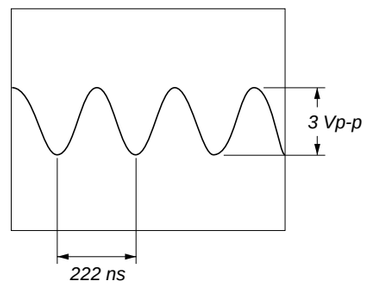
IC900 LC75844M



• Waveforms

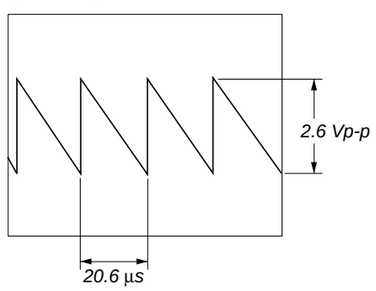
– MAIN Board –

❶ IC1 ① (XIN)

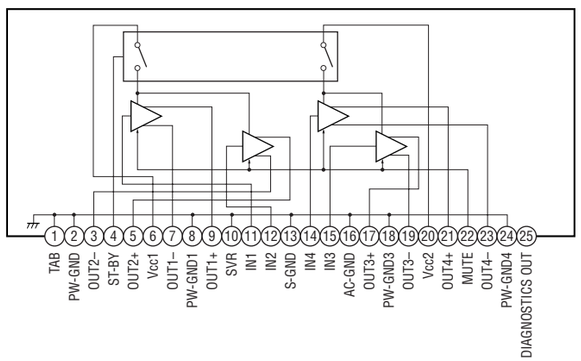


– CONTROL Board –

❷ IC900 ㉜ OSC



IC500 TDA7386



5-7. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC1 LC72322N-9914 (SYSTEM CONTROLLER)

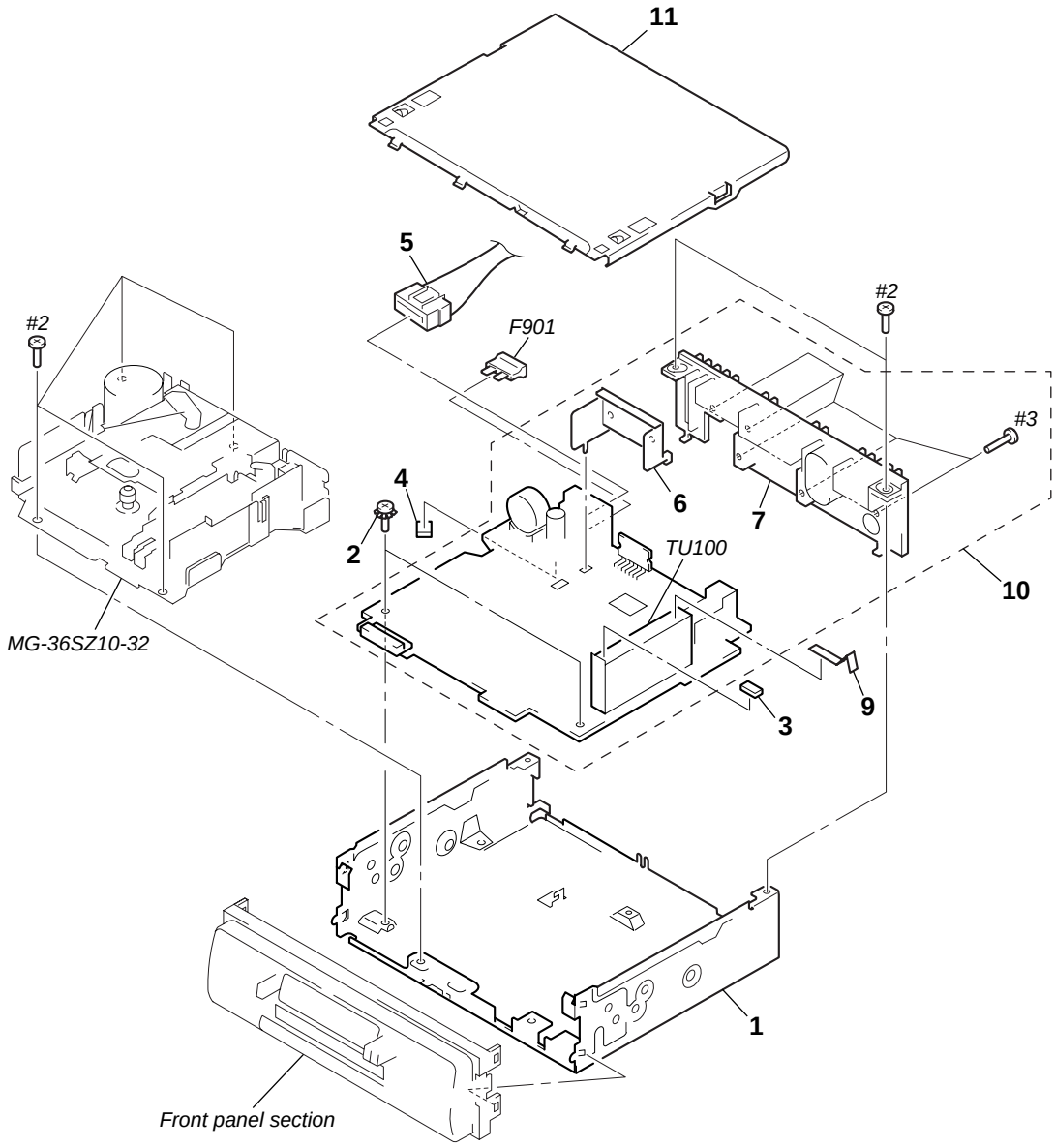
Pin No.	Pin Name	I/O	Description
1	XIN	I	System clock input terminal (4.5 MHz)
2	TEST2	I	Connected to ground
3, 4	NC	I	Not used (fixed at "L")
5	SD	I	Station detector detect input from the FM/AM tuner unit (TU100) Stop level for SEEK, BTM, etc. is determined SD is present at input of "H"
6	$\overline{\text{STEREO}}$	I	Stereo detection signal input from the FM/AM tuner unit (TU100) (Commonly used for stereo display input) FM stereo detection at input of "L"
7 to 10	NC	O	Not used (open)
11	BEEP	O	Beep sound signal output terminal "H" active
12	MUTE-REQ	I	Muting request signal input terminal ("H" active) "L": accessory on, "H": accessory off
13	ILL-ON	O	Power on/off control signal output for the liquid crystal display driver (IC900), illumination lamp and back light lamp "H": power on
14	N/$\overline{\text{R}}$	I	Tape direction switch (S901) input terminal "L": reverse side, "H": forward side
15	$\overline{\text{TAPE-IN}}$	I	Tape in detection switch (S903) input terminal "L": tape in
16	$\overline{\text{FF-REW}}$	I	FF/REW detection switch (S902) input terminal "L": FF/REW mode At this time, the current display such as run display will blinking at every 1Hz. When the ATA function is ON, entering "L" in the tape mode causes the mode to be changed over to the radio monitor mode
17	K1	I	Diode matrix return signal input terminal Not used (fixed at "L")
18	K0	I	Diode matrix return signal input from the frequency select switch (S1) Used for the E and UK models
19	MOTOR	O	Capstan/reel motor (M901) drive signal output "H": motor on
20	SEEK	O	Seek control signal output to the FM/AM tuner unit (TU100) "H" active
21	$\overline{\text{SEEK}}$	O	Seek control signal output terminal "L" active Not used (open)
22	LOCAL/$\overline{\text{DX}}$	O	Local/DX selection signal output to the FM/AM tuner unit (TU100) "L": DX, "H": local
23 to 27	KS0 to KS4	O	Key matrix scan signal output terminal
28	LCD-CLK	O	Serial data transfer clock signal output to the liquid crystal display driver (IC900)
29	LCD-CE	O	Chip enable signal output to the liquid crystal display driver (IC900) "H" active
30	LCD-DATA	O	Serial data output to the liquid crystal display driver (IC900) "H" active
31	VDD	—	Power supply terminal (+5V)
32	KIN0	I	Key matrix input terminal
33	KIN1	I	
34	KIN2	I	
35	$\overline{\text{BAND-KEY}}$	I	A MEM TUNER switch (S900, 901) input terminal "L" is input when pressing the switch
36	T2	O	Diode matrix scan signal output to the frequency select switch (S1) Used for the E and UK models
37	T1	O	Diode matrix scan signal output terminal Not used (open)
38	T0	O	
39, 40	NC	O	Not used (open)
41	MUTE	O	Audio muting on/off control signal output terminal "H": muting on
42	NC	O	Not used (open)
43	$\overline{\text{AMP-MUTE}}$	O	Amp muting on/off control signal output terminal to the power amplifier (IC500) "L": muting on
44	ANT-REM	O	Control signal output for the external power antenna and external amplifier "H" active
45 to 48	NC	O	Not used (open)
49	VOL-CE	O	Chip enable signal output to the electrical volume (IC400) "H" active
50	VOL-DI	O	Serial data output to the electrical volume (IC400) "H" active

Pin No.	Pin Name	I/O	Description
51	VOL-CL	O	Serial data transfer clock signal output to the electrical volume (IC400)
52 to 54	NC	O	Not used (open)
55	POWER-ON	O	Power on/off control signal output "H": power on
56	AM-ON	O	AM system power supply on/off control signal output terminal "H": AM on
57 to 60	NC	O	Not used (open)
61	FM-ON	O	FM system power supply on/off control signal output terminal "H": FM on
62	AMP-ON	O	Standby on/off signal output to the power amplifier (IC500) "L": standby, "H": amp on
63 to 65	NC	O	Not used (open)
66	$\overline{\text{INT}}$	I	Connected to ground
67	$\overline{\text{CE}}$	I	Accessory switch on/off detection signal input terminal "L": accessory off (hold mode), "H": accessory on
68	$\overline{\text{RESET}}$	I	System reset signal input terminal "L": reset Not used (pull up)
69	ADI	I	Connected to ground
70	IFIN	I	FM and AM intermediate frequency detection signal input from the FM/AM tuner unit (TU100)
71	NC	I	Not used (fixed at "L")
72	$\overline{\text{SNS}}$	I	Power fail detect signal input terminal "L": power fail occurred Whether the power fail occurred is judged in the backup mode
73	VDD	—	Power supply terminal (+5V)
74	FMIN	I	FM local oscillator input from the FM/AM tuner unit (TU100)
75	AMIN	I	AM local oscillator input from the FM/AM tuner unit (TU100)
76	VSS	—	Ground terminal
77	EO	O	Main charge-pump control signal output terminal
78	NC	O	Not used (open)
79	TEST1	I	Connected to ground
80	XOUT	O	System clock output terminal (4.5 MHz)

SECTION 6
EXPLODED VIEWS

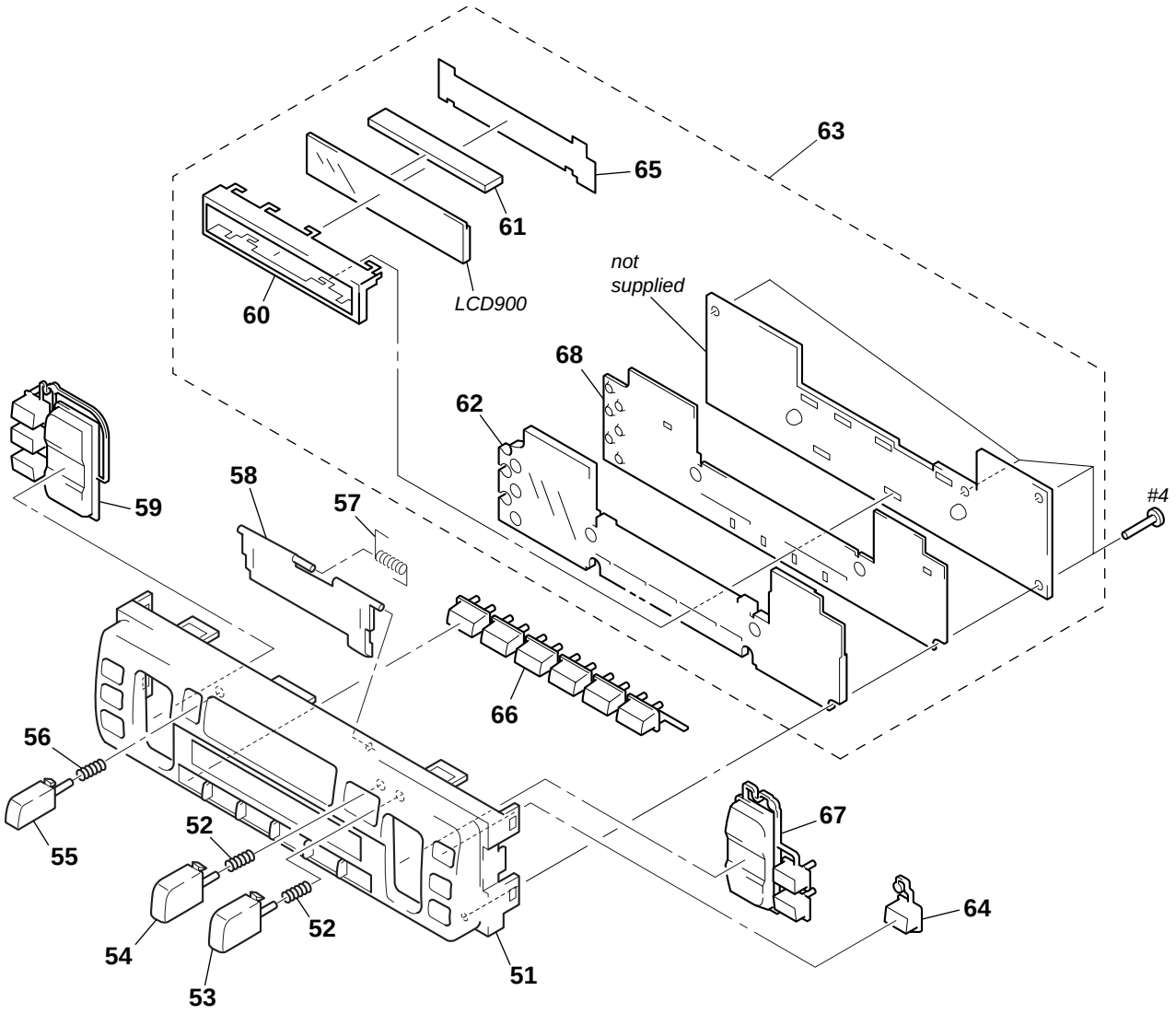
NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.
- Abbreviation
  CND : Canadian model

6-1. GENERAL SECTION



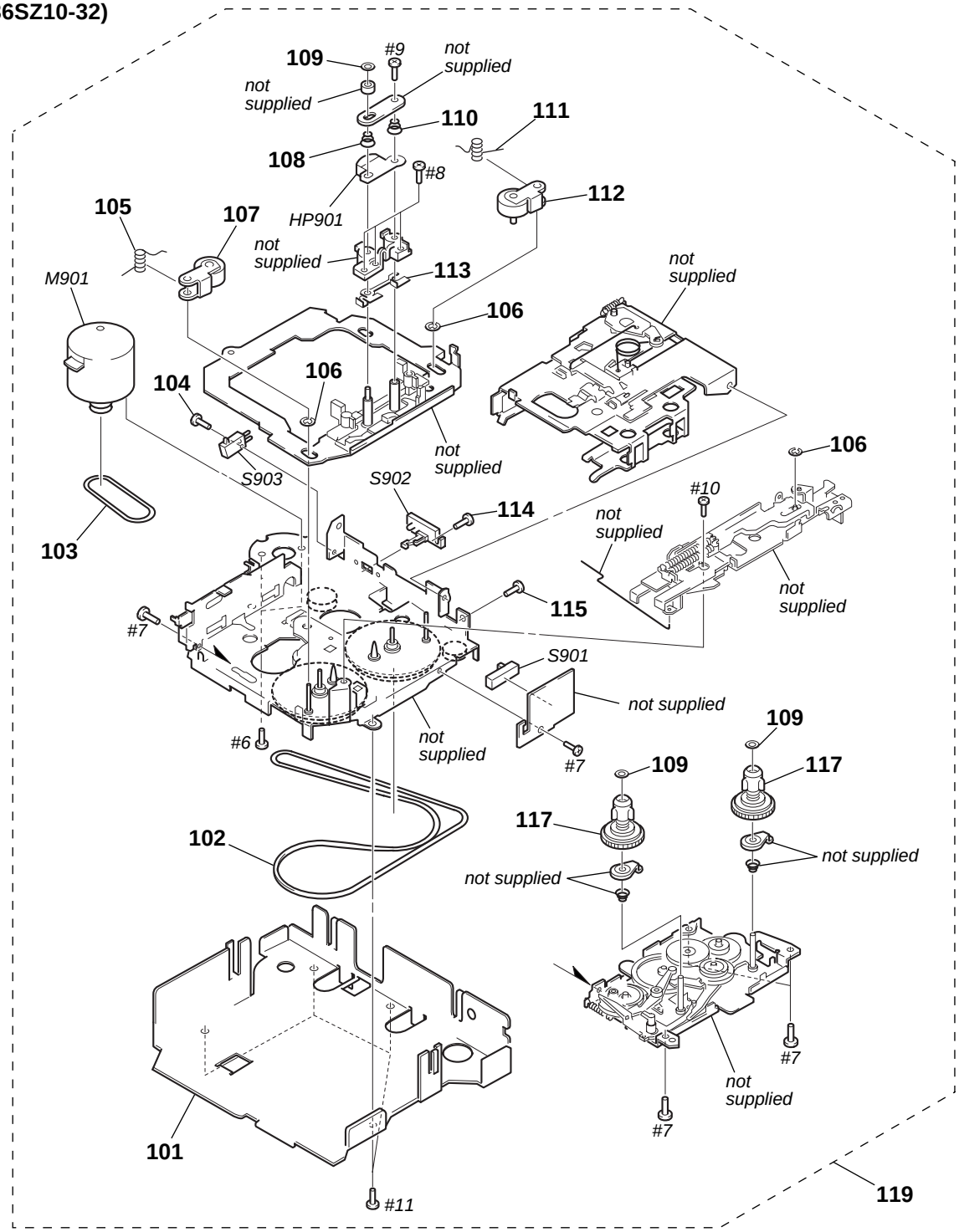
Ref. No.	Part No.	Description	Remark
* 1	3-047-715-01	CHASSIS	
2	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
* 3	3-046-339-01	CUSHION (U)	
* 4	3-041-576-01	SHEET, INSULATING	
5	1-776-207-31	CORD (WITH CONNECTOR) (POWER)	
* 6	3-041-578-01	BRACKET (IC)	
* 7	3-041-566-01	HEAT SINK	
9	3-937-650-01	PLATE (C), GROUND	
* 10	A-3326-433-A	MAIN BOARD, COMPLETE (US, CND)	
* 10	A-3326-496-A	MAIN BOARD, COMPLETE (E, UK)	
* 11	3-041-606-11	COVER, TOP	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
TU100	1-693-512-11	FM/AM TUNER UNIT	

6-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-041-567-01	PANEL, FRONT	
52	3-375-372-01	SPRING (F/R)	
53	3-041-583-01	BUTTON (FF) (▶▶)	
54	3-041-584-01	BUTTON (REW) (◀◀)	
55	3-041-582-01	BUTTON (EJECT)(⏏)	
56	3-029-327-01	SPRING (EJECT)	
57	3-044-125-01	SPRING TORSION	
58	3-041-581-01	DOOR, CASSETTE	
59	3-041-569-01	BLOCK (B), BUTTON (TUNER, SOUND, OFF, +, -)	
* 60	3-041-573-01	PLATE (LCD), GROUND	
61	1-694-696-21	CONDUCTIVE BOARD, CONNECTION	
* 62	3-041-571-01	PLATE, LIGHT GUIDE	
* 63	A-3294-940-A	CONTROL BOARD, COMPLETE	
64	3-041-737-01	BUTTON (D-BASS)	
* 65	3-041-574-01	ILLUMINATOR	
66	3-041-570-01	BUTTON (1-6)	
67	3-041-568-01	BLOCK (A), BUTTON (DSPL, LOCAL, +, -)	
68	1-794-426-11	CONNECTOR, RUBBER	
LCD900	1-803-917-11	DISPLAY PANEL, LIQUID CRYSTAL	

6-3. MECHANISM DECK SECTION (MG-36SZ10-32)



Ref. No.	Part No.	Description	Remark
* 101	3-041-579-01	BRACKET (MD)	
102	3-045-943-01	MAIN BELT	
103	3-045-945-01	SUB BELT (C)	
104	3-045-953-01	+MACHINE SCREW M1.7X6	
105	3-045-940-01	PINCH ARM SPG (R)	
106	3-045-950-01	E-RING (DIA. 2)	
107	3-045-890-01	PINCH ARM (R)	
108	3-045-933-01	ADJUSTER ARM SPG (B)	
109	3-045-949-01	PSW (REEL) B	
110	3-045-932-01	ADJUSTER ARM SPG (A)	
111	3-045-939-01	PINCH ARM SPG (F)	
112	3-045-891-01	PINCH ARM (F)	
113	3-045-906-01	ADJUSTER SHIM (X)	
114	3-045-952-01	+MACHINE SCREW M1.7X4	
115	3-713-786-51	SCREW +P 2X3	
117	3-045-893-01	REEL SPINDLE	
119	A-3220-753-A	MECHANISM DECK ASSY (MG-36SZ10-32)	
HP901	1-500-661-11	HEAD (PLAYBACK)	
M901	1-763-507-11	MOTOR (CAPSTAN/REEL)	
S901	1-771-928-11	SWITCH (SLIDE) (DIRECTION)	
S902	1-771-926-11	SWITCH (LEAF) (FF/REW)	
S903	1-771-927-11	SWITCH (LEAF) (TAPE DETECT)	

CONTROL | MAIN

SECTION 7
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Abbreviation
  CND : Canadian model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3294-940-A	CONTROL BOARD, COMPLETE			
		**********			
	1-694-696-21	CONDUCTIVE BOARD, CONNECTION			
	1-794-426-11	CONNECTOR, RUBBER			
*	3-041-571-01	PLATE, LIGHT GUIDE			
*	3-041-573-01	PLATE (LCD), GROUND			
*	3-041-574-01	ILLUMINATOR			
		< CAPACITOR >			
C900	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C901	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C902	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C903	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C904	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
		< CONNECTOR >			
CN900	1-785-773-11	PIN, CONNECTOR 15P			
		< DIODE >			
D900	8-719-988-61	DIODE 1SS355TE-17			
D901	8-719-070-56	DIODE PDZ5.1B-115			
D902	8-719-033-14	LED CL-170PG-CD-T (ILLUMINATION)			
D903	8-719-053-31	LED CL-170YG-CD-T (ILLUMINATION)			
D904	8-719-033-14	LED CL-170PG-CD-T (ILLUMINATION)			
D905	8-719-033-14	LED CL-170PG-CD-T (ILLUMINATION)			
D906	8-719-033-14	LED CL-170PG-CD-T (ILLUMINATION)			
D907	8-719-033-14	LED CL-170PG-CD-T (ILLUMINATION)			
		< IC >			
IC900	8-759-675-30	IC LC75844M			
		< LIQUID CRYSTAL DISPLAY >			
LCD900	1-803-917-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< PILOT LAMP >			
PL100	1-517-974-11	LAMP, PILOT (LCD BACK LIGHT)			
PL101	1-517-974-11	LAMP, PILOT (LCD BACK LIGHT)			
		< RESISTOR >			
R900	1-216-097-11	RES-CHIP	100K	5%	1/10W
R901	1-216-088-00	RES-CHIP	43K	5%	1/10W
R902	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R903	1-216-198-00	RES-CHIP	1K	5%	1/8W
R904	1-216-198-00	RES-CHIP	1K	5%	1/8W
R905	1-216-198-00	RES-CHIP	1K	5%	1/8W
R906	1-216-198-00	RES-CHIP	1K	5%	1/8W
R907	1-216-049-11	RES-CHIP	1K	5%	1/10W
R908	1-216-049-11	RES-CHIP	1K	5%	1/10W
R909	1-216-049-11	RES-CHIP	1K	5%	1/10W
**********					
*	A-3326-433-A	MAIN BOARD, COMPLETE (US, CND)			
*	A-3326-496-A	MAIN BOARD, COMPLETE (E, UK)			
		**********			
*	3-041-566-01	HEAT SINK			
*	3-041-578-01	BRACKET (IC)			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< CAPACITOR >			
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C2	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C4	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C5	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C6	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C7	1-124-589-11	ELECT	47uF	20%	16V
C9	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C10	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C12	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C13	1-163-018-00	CERAMIC CHIP	0.0056uF	10%	50V
C18	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C19	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C100	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C101	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C102	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C103	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C105	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C106	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C107	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C108	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C109	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C111	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C112	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C114	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C115	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C116	1-126-162-11	ELECT	3.3uF	20%	50V
C117	1-124-589-11	ELECT	47uF	20%	16V
C121	1-124-234-00	ELECT	22uF	20%	16V

Ref. No.	Part No.	Description			Remark
C123	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C124	1-126-935-11	ELECT	470uF	20%	16V
C150	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C151	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C160	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V (US, CND)
C160	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V (E, UK)
C161	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V (US, CND)
C161	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V (E, UK)
C162	1-104-942-11	ELECT	1uF	20%	50V
C163	1-104-942-11	ELECT	1uF	20%	50V
C300	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C301	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C302	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C304	1-124-584-00	ELECT	100uF	20%	6.3V
C305	1-124-584-00	ELECT	100uF	20%	6.3V
C306	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C307	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C309	1-124-234-00	ELECT	22uF	20%	16V
C310	1-124-229-00	ELECT	33uF	20%	10V
C311	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C312	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C313	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C318	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C319	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C400	1-104-942-11	ELECT	1uF	20%	50V
C401	1-104-942-11	ELECT	1uF	20%	50V
C402	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C403	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C404	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C405	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C406	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C407	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C408	1-126-157-11	ELECT	10uF	20%	16V
C409	1-126-157-11	ELECT	10uF	20%	16V
C410	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C411	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C412	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C413	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C414	1-126-157-11	ELECT	10uF	20%	16V
C415	1-126-157-11	ELECT	10uF	20%	16V
C416	1-126-159-11	ELECT	0.47uF	20%	50V
C417	1-126-159-11	ELECT	0.47uF	20%	50V
C418	1-126-159-11	ELECT	0.47uF	20%	50V
C419	1-126-159-11	ELECT	0.47uF	20%	50V
C420	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C421	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C422	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C423	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C424	1-124-464-11	ELECT	0.22uF	20%	50V
C425	1-124-464-11	ELECT	0.22uF	20%	50V
C426	1-124-464-11	ELECT	0.22uF	20%	50V
C427	1-124-464-11	ELECT	0.22uF	20%	50V
C430	1-124-234-00	ELECT	22uF	20%	16V
C431	1-124-584-00	ELECT	100uF	20%	10V
C502	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C503	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C506	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C507	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C508	1-119-774-11	ELECT	100uF	20%	16V
C509	1-104-942-11	ELECT	1uF	20%	50V
C510	1-126-157-11	ELECT	10uF	20%	16V
C511	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C513	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C514	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C600	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C601	1-124-589-11	ELECT	47uF	20%	16V
C602	1-124-589-11	ELECT	47uF	20%	16V
C603	1-124-257-00	ELECT	2.2uF	20%	50V
C700	1-126-936-11	ELECT	3300uF	20%	16V
C703	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C708	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C709	1-126-157-11	ELECT	10uF	20%	16V
C710	1-124-584-00	ELECT	100uF	20%	10V
C712	1-126-157-11	ELECT	10uF	20%	16V
C713	1-128-057-11	ELECT	330uF	20%	6.3V
C714	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C716	1-126-157-11	ELECT	10uF	20%	16V
C718	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

< JACK/CONNECTOR >

CN100	1-764-808-21	JACK (ANT) (FM/AM ANTENNA)	
* CN300	1-564-705-11	PIN, CONNECTOR (PC BOARD) 3P	
* CN350	1-573-486-11	PIN, CONNECTOR (PC BOARD) 8P	
CN600	1-785-772-11	PLUG, CONNECTOR 15P	
CN700	1-774-701-11	PIN, CONNECTOR 16P (POWER)	

< DIODE >

D1	8-719-991-33	DIODE	1SS133T-77 (E, UK)
D3	8-719-991-33	DIODE	1SS133T-77
D100	8-719-988-61	DIODE	1SS355TE-17
D101	8-719-079-94	DIODE	1PS59SB15
D300	8-719-991-33	DIODE	1SS133T-77
D400	8-719-109-72	DIODE	RD3.9ESB2
D500	8-719-200-82	DIODE	11ES2
D501	8-719-200-82	DIODE	11ES2
D502	8-719-200-82	DIODE	11ES2
D503	8-719-200-82	DIODE	11ES2
D504	8-719-200-82	DIODE	11ES2
D505	8-719-200-82	DIODE	11ES2
D506	8-719-200-82	DIODE	11ES2
D507	8-719-200-82	DIODE	11ES2
D600	8-719-991-33	DIODE	1SS133T-77
D601	8-719-991-33	DIODE	1SS133T-77
D602	8-719-991-33	DIODE	1SS133T-77
D603	8-719-109-97	DIODE	RD6.8ESB2
D604	8-719-110-49	DIODE	RD18ESB2
D605	8-719-991-33	DIODE	1SS133T-77
D606	8-719-988-61	DIODE	1SS355TE-17
D700	8-719-049-38	DIODE	1N5404TU
D702	8-719-200-82	DIODE	11ES2
D704	8-719-991-33	DIODE	1SS133T-77

MAIN

Ref. No.	Part No.	Description		Remark
D705	8-719-048-54	DIODE	MTZJ-T-77-10A	
D706	8-719-991-33	DIODE	1SS133T-77	
D707	8-719-935-40	DIODE	HZS6B2LTD	
D708	8-719-200-82	DIODE	11ES2	
D709	8-719-200-82	DIODE	11ES2	
		< DISCHARGE GAP >		
DSP100	1-519-504-11	GAP, DISCHARGE		
		< IC >		
IC1	8-759-670-49	IC	LC72322N-9914	
IC300	8-759-924-46	IC	BA4560F	
IC400	8-759-487-82	IC	LC75374E	
IC500	8-759-486-44	IC	TDA7386	
		< SHORT >		
JC2	1-216-295-00	SHORT CHIP	0	
JC3	1-216-296-11	SHORT CHIP	0	
JC5	1-216-296-11	SHORT CHIP	0	
JC7	1-216-295-00	SHORT CHIP	0	
JC10	1-216-296-11	SHORT CHIP	0	
JC11	1-216-296-11	SHORT CHIP	0	
		< COIL >		
L1	1-414-142-11	INDUCTOR	1uH	
L100	1-416-636-51	COIL (AM ANT)		
L101	1-410-515-11	INDUCTOR	33uH	
L700	1-419-476-11	COIL, CHOKE	250uH	
		< TRANSISTOR >		
Q100	8-729-043-28	TRANSISTOR	PDTC124EK-115	
Q101	8-729-422-33	TRANSISTOR	2SD601A-Q-TX	
Q102	8-729-422-33	TRANSISTOR	2SD601A-Q-TX	
Q103	8-729-043-28	TRANSISTOR	PDTC124EK-115	
Q104	8-729-049-85	TRANSISTOR	2PB710AR-115	
Q105	8-729-043-28	TRANSISTOR	PDTC124EK-115	
Q106	8-729-049-85	TRANSISTOR	2PB710AR-115	
Q400	8-729-920-21	TRANSISTOR	DTC314TK-T-146	
Q401	8-729-920-21	TRANSISTOR	DTC314TK-T-146	
Q402	8-729-920-21	TRANSISTOR	DTC314TK-T-146	
Q403	8-729-920-21	TRANSISTOR	DTC314TK-T-146	
Q600	8-729-043-32	TRANSISTOR	PDTA114EK-115	
Q601	8-729-043-27	TRANSISTOR	PDTC114EK-115	
Q602	8-729-216-22	TRANSISTOR	2SA1162-G	
Q604	8-729-422-33	TRANSISTOR	2SD601A-Q-TX	
Q605	8-729-422-33	TRANSISTOR	2SD601A-Q-TX	
Q606	8-729-043-34	TRANSISTOR	PDTA144EK-115	
Q700	8-729-921-48	TRANSISTOR	2SD1760F5-Q	
Q701	8-729-216-22	TRANSISTOR	2SA1162-G	
Q702	8-729-043-27	TRANSISTOR	PDTC114EK-115	
Q703	8-729-205-96	TRANSISTOR	2SC3668-O	
Q704	8-729-205-95	TRANSISTOR	2SA1428-Y	
Q705	8-729-216-22	TRANSISTOR	2SA1162-G	
Q706	8-729-043-28	TRANSISTOR	PDTC124EK-115	
Q707	8-729-205-95	TRANSISTOR	2SA1428-Y	
Q708	8-729-043-27	TRANSISTOR	PDTC114EK-115	
Q709	8-729-205-95	TRANSISTOR	2SA1428-Y	
Q710	8-729-043-27	TRANSISTOR	PDTC114EK-115	
		< RESISTOR/CAPACITOR >		
R1	1-216-061-00	RES-CHIP	3.3K 5% 1/10W	
R2	1-249-429-11	CARBON	10K 5% 1/4W	
R3	1-249-417-11	CARBON	1K 5% 1/4W	
R4	1-216-097-11	RES-CHIP	100K 5% 1/10W	
R5	1-216-097-11	RES-CHIP	100K 5% 1/10W	
R6	1-216-097-11	RES-CHIP	100K 5% 1/10W	
R7	1-249-435-11	CARBON	33K 5% 1/4W	
R8	1-249-435-11	CARBON	33K 5% 1/4W	
R9	1-216-198-00	RES-CHIP	1K 5% 1/8W	
R10	1-249-417-11	CARBON	1K 5% 1/4W	
R11	1-216-073-00	RES-CHIP	10K 5% 1/10W	
R12	1-216-073-00	RES-CHIP	10K 5% 1/10W	
R13	1-216-073-00	RES-CHIP	10K 5% 1/10W	
R14	1-249-417-11	CARBON	1K 5% 1/4W	
R15	1-249-417-11	CARBON	1K 5% 1/4W	
R16	1-249-417-11	CARBON	1K 5% 1/4W	
R17	1-216-097-11	RES-CHIP	100K 5% 1/10W	
R19	1-249-417-11	CARBON	1K 5% 1/4W	
R20	1-249-417-11	CARBON	1K 5% 1/4W	
R21	1-249-417-11	CARBON	1K 5% 1/4W	
R22	1-249-417-11	CARBON	1K 5% 1/4W	
R23	1-249-417-11	CARBON	1K 5% 1/4W	
R24	1-249-417-11	CARBON	1K 5% 1/4W	
R25	1-249-417-11	CARBON	1K 5% 1/4W	
R26	1-249-417-11	CARBON	1K 5% 1/4W	
R29	1-216-097-11	RES-CHIP	100K 5% 1/10W	
R30	1-216-113-00	RES-CHIP	470K 5% 1/10W	
R31	1-249-441-11	CARBON	100K 5% 1/4W	
R32	1-249-417-11	CARBON	1K 5% 1/4W	
R33	1-216-049-11	RES-CHIP	1K 5% 1/10W	
R34	1-216-073-00	RES-CHIP	10K 5% 1/10W	
R36	1-216-073-00	RES-CHIP	10K 5% 1/10W	
R37	1-216-246-00	RES-CHIP	100K 5% 1/8W	
R38	1-216-246-00	RES-CHIP	100K 5% 1/8W	
R39	1-216-097-11	RES-CHIP	100K 5% 1/10W	
R40	1-216-049-11	RES-CHIP	1K 5% 1/10W	
R41	1-216-049-11	RES-CHIP	1K 5% 1/10W	
R42	1-216-049-11	RES-CHIP	1K 5% 1/10W	
R100	1-249-417-11	CARBON	1K 5% 1/4W	
R102	1-216-009-00	RES-CHIP	22 5% 1/10W	(E, UK)
R102	1-216-017-00	RES-CHIP	47 5% 1/10W	(US, CND)
R103	1-216-089-11	RES-CHIP	47K 5% 1/10W	
R104	1-216-089-11	RES-CHIP	47K 5% 1/10W	
R105	1-216-041-00	RES-CHIP	470 5% 1/10W	
R106	1-216-049-11	RES-CHIP	1K 5% 1/10W	
R107	1-216-061-00	RES-CHIP	3.3K 5% 1/10W	
R108	1-216-025-11	RES-CHIP	100 5% 1/10W	
R109	1-216-073-00	RES-CHIP	10K 5% 1/10W	
R110	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	
R111	1-216-073-00	RES-CHIP	10K 5% 1/10W	
R112	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	
R113	1-249-385-11	CARBON	2.2 5% 1/4W	
R114	1-216-049-11	RES-CHIP	1K 5% 1/10W	

Ref. No.	Part No.	Description			Remark
R152	1-216-089-00	RES-CHIP	22K	5%	1/10W (US, CND)
R153	1-216-089-00	RES-CHIP	22K	5%	1/10W (US, CND)
R160	1-216-067-00	METAL CHIP	5.6K	5%	1/10W (US, CND)
R160	1-216-091-00	RES-CHIP	56K	5%	1/10W (E, UK)
R161	1-216-067-00	METAL CHIP	5.6K	5%	1/10W (US, CND)
R161	1-216-091-00	RES-CHIP	56K	5%	1/10W (E, UK)
R162	1-216-049-11	RES-CHIP	1K	5%	1/10W
R163	1-216-049-11	RES-CHIP	1K	5%	1/10W
R300	1-216-089-11	RES-CHIP	47K	5%	1/10W
R301	1-216-089-11	RES-CHIP	47K	5%	1/10W
R302	1-216-013-00	RES-CHIP	33	5%	1/10W
R303	1-216-013-00	RES-CHIP	33	5%	1/10W
R304	1-216-115-00	RES-CHIP	560K	5%	1/10W
R305	1-216-115-00	RES-CHIP	560K	5%	1/10W
R306	1-216-077-00	RES-CHIP	15K	5%	1/10W
R307	1-216-077-00	RES-CHIP	15K	5%	1/10W
R308	1-216-049-11	RES-CHIP	1K	5%	1/10W
R309	1-216-049-11	RES-CHIP	1K	5%	1/10W
R310	1-216-073-00	RES-CHIP	10K	5%	1/10W
R311	1-216-073-00	RES-CHIP	10K	5%	1/10W
R312	1-247-807-31	CARBON	100	5%	1/4W
R313	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
R314	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
R400	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R401	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R402	1-249-409-11	CARBON	220	5%	1/4W
R403	1-249-409-11	CARBON	220	5%	1/4W
R404	1-249-409-11	CARBON	220	5%	1/4W
R405	1-249-409-11	CARBON	220	5%	1/4W
R406	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R407	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R408	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R409	1-216-214-00	RES-CHIP	4.7K	5%	1/8W
R410	1-216-089-11	RES-CHIP	47K	5%	1/10W
R411	1-216-089-11	RES-CHIP	47K	5%	1/10W
R412	1-216-089-11	RES-CHIP	47K	5%	1/10W
R413	1-216-089-11	RES-CHIP	47K	5%	1/10W
R416	1-249-393-11	CARBON	10	5%	1/4W
R500	1-249-437-11	CARBON	47K	5%	1/4W
R502	1-249-417-11	CARBON	1K	5%	1/4W
R503	1-249-429-11	CARBON	10K	5%	1/4W
R504	1-216-009-00	RES-CHIP	22	5%	1/10W
R600	1-216-105-00	RES-CHIP	220K	5%	1/10W
R601	1-249-429-11	CARBON	10K	5%	1/4W
R602	1-249-401-11	CARBON	47	5%	1/4W
R603	1-249-433-11	CARBON	22K	5%	1/4W
R604	1-216-081-00	RES-CHIP	22K	5%	1/10W
R605	1-216-073-00	RES-CHIP	10K	5%	1/10W
R606	1-216-081-00	RES-CHIP	22K	5%	1/10W
R607	1-216-085-00	RES-CHIP	33K	5%	1/10W
R700	1-249-413-11	CARBON	470	5%	1/4W
R701	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R702	1-249-421-11	CARBON	2.2K	5%	1/4W
R703	1-216-081-00	RES-CHIP	22K	5%	1/10W
R704	1-216-230-00	RES-CHIP	22K	5%	1/8W
R705	1-249-425-11	CARBON	4.7K	5%	1/4W
R706	1-216-089-11	RES-CHIP	47K	5%	1/10W
R707	1-216-081-00	RES-CHIP	22K	5%	1/10W
R708	1-249-421-11	CARBON	2.2K	5%	1/4W
R709	1-216-097-11	RES-CHIP	100K	5%	1/10W
R710	1-249-385-11	CARBON	2.2	5%	1/6W
R711	1-249-385-11	CARBON	2.2	5%	1/6W
R712	1-249-385-11	CARBON	2.2	5%	1/6W
R713	1-249-385-11	CARBON	2.2	5%	1/6W
R714	1-216-073-00	RES-CHIP	10K	5%	1/10W
R715	1-216-298-00	RES-CHIP	2.2	5%	1/10W
R716	1-249-478-11	CARBON	2.2	5%	1/2W
R717	1-249-421-11	CARBON	2.2K	5%	1/4W
R718	1-249-417-11	CARBON	1K	5%	1/4W
R719	1-216-073-00	RES-CHIP	10K	5%	1/10W
R720	1-216-097-11	RES-CHIP	100K	5%	1/10W

< SWITCH >

S1	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT) (E, UK)

< TUNER >

TU100	1-693-512-11	FM/AM TUNER UNIT

< VIBRATOR >

X1	1-781-049-21	VIBRATOR, CRYSTAL (4.5MHz)

****

MISCELLANEOUS
****

5	1-776-207-31	CORD (WITH CONNECTOR) (POWER)
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)
HP901	1-500-661-11	HEAD (PLAYBACK)
M901	1-763-507-11	MOTOR (CAPSTAN/REEL)
S901	1-771-928-11	SWITCH (SLIDE) (DIRECTION)
S902	1-771-926-11	SWITCH (LEAF) (FF/REW)
S903	1-771-927-11	SWITCH (LEAF) (TAPE DETECT)

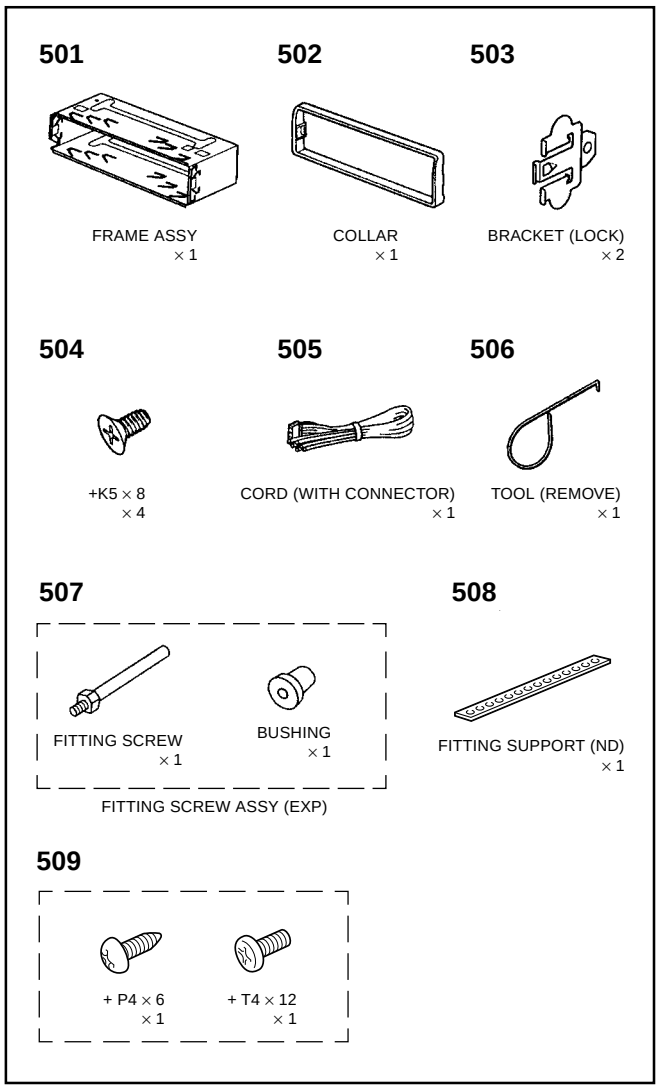
****

****
HARDWARE LIST
****

#2	7-685-792-09	SCREW +PTT 2.6X6 (S)
#3	7-685-794-09	SCREW +PTT 2.6X10 (S)
#4	7-685-105-19	TPG +P 2X8, TYPE 2, NON-SLIT
#6	7-627-553-27	PRECISION SCREW +P 2X2.5 TYPE3
#7	7-685-101-11	SCREW +PTP 2X3 NON-SLIT
#8	7-621-255-35	SCREW +P 2X5
#9	7-621-255-25	SCREW +P 2X4
#10	7-685-781-09	SCREW +PTT 2X4 (S)
#11	7-621-775-10	SCREW +B 02.6X4

****

Ref. No.	Part No.	Description	Remark
		ACCCESSORIES & PACKING MATERIALS	
		**********	
	3-868-315-11	MANUAL, INSTRUCTION (ENGLISH) (US, CND)	
	3-868-315-21	MANUAL, INSTRUCTION (FRENCH) (CND)	
	3-868-315-31	MANUAL, INSTRUCTION (ENGLISH, SPANISH, TRADITIONAL CHINESE) (E, UK)	
	3-868-316-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH) (US, CND)	
	3-868-316-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH, TRADITIONAL CHINESE) (E, UK)	
**********			
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
501	X-3373-605-1	FRAME ASSY	
502	3-042-271-01	COLLAR	
503	3-032-993-01	BRACKET (LOCK)	
504	3-934-325-01	SCREW, +K (5X8) TAPPING (E, UK)	
505	1-776-207-31	CORD (WITH CONNECTOR) (POWER)	
506	3-702-658-01	TOOL (REMOVE)	
507	X-3380-860-1	SCREW ASSY (EXP), FITTING (E, UK)	
508	3-924-961-01	SUPPORT (ND), FITTING (US, CND)	
509	X-3368-725-1	SCREW ASSY, FITTING (US, CND)	



XR-1100

SONY

SERVICE MANUAL

US Model
Canadian Model
UK Model
E Model

Ver 1.2 2004.09

SUPPLEMENT-1

File this supplement with the service manual.

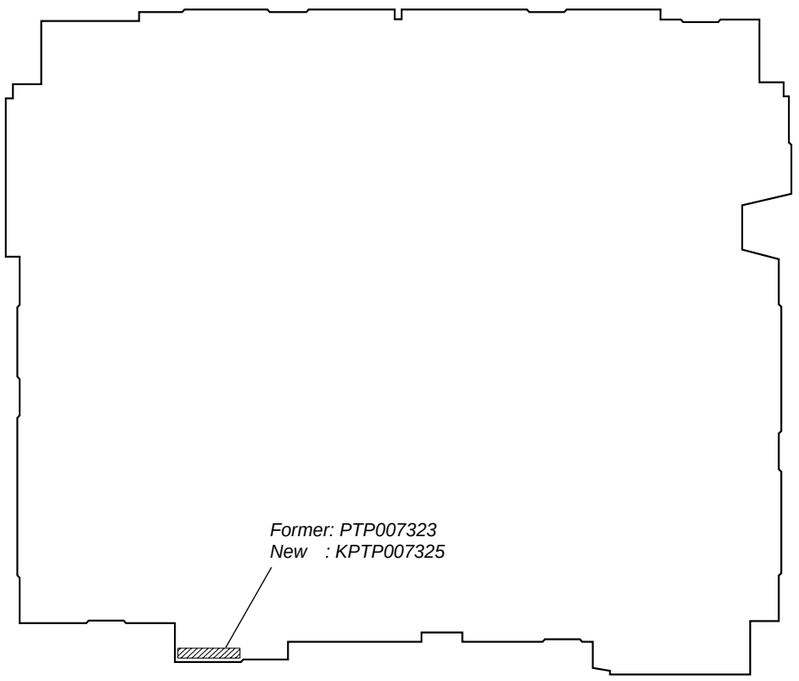
Subject: Change of MAIN board (Suffix-12) (E model only)

(ENG-04006)

In this set, MAIN board has been changed in the midway of production.
Printed wiring board, schematic diagrams and electrical parts list of new type are described in this supplement-1.
Refer to original service manual for other information.

1. NEW/FORMER DISCRIMINATION

– MAIN BOARD (Conductor Side) –



9-870-060-82

2. DIAGRAMS

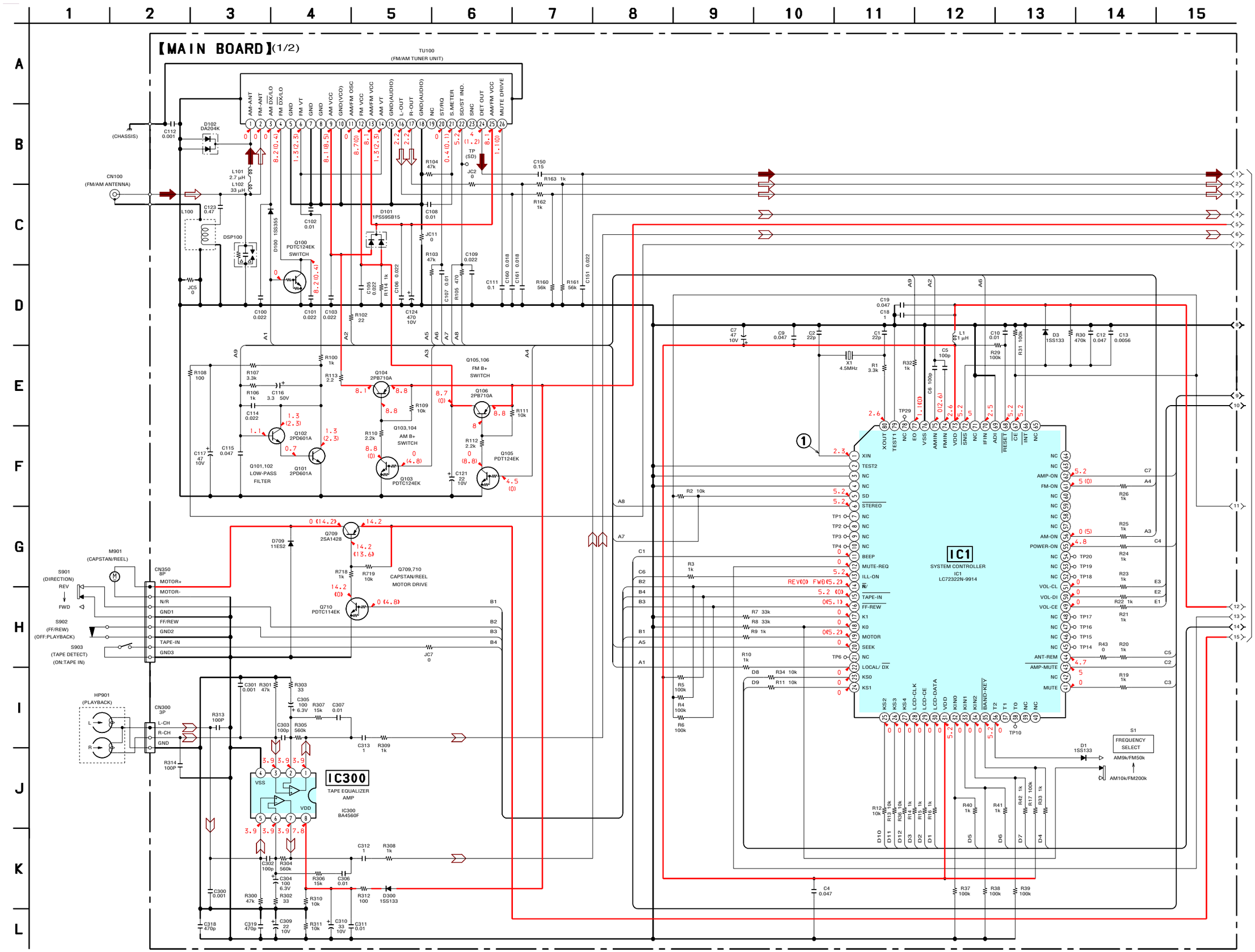
- **Note for Printed Wiring Board and Schematic Diagrams**

Note on Printed Wiring Board:
- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- △ : internal component.
- ▭ : Pattern from the side which enables seeing.

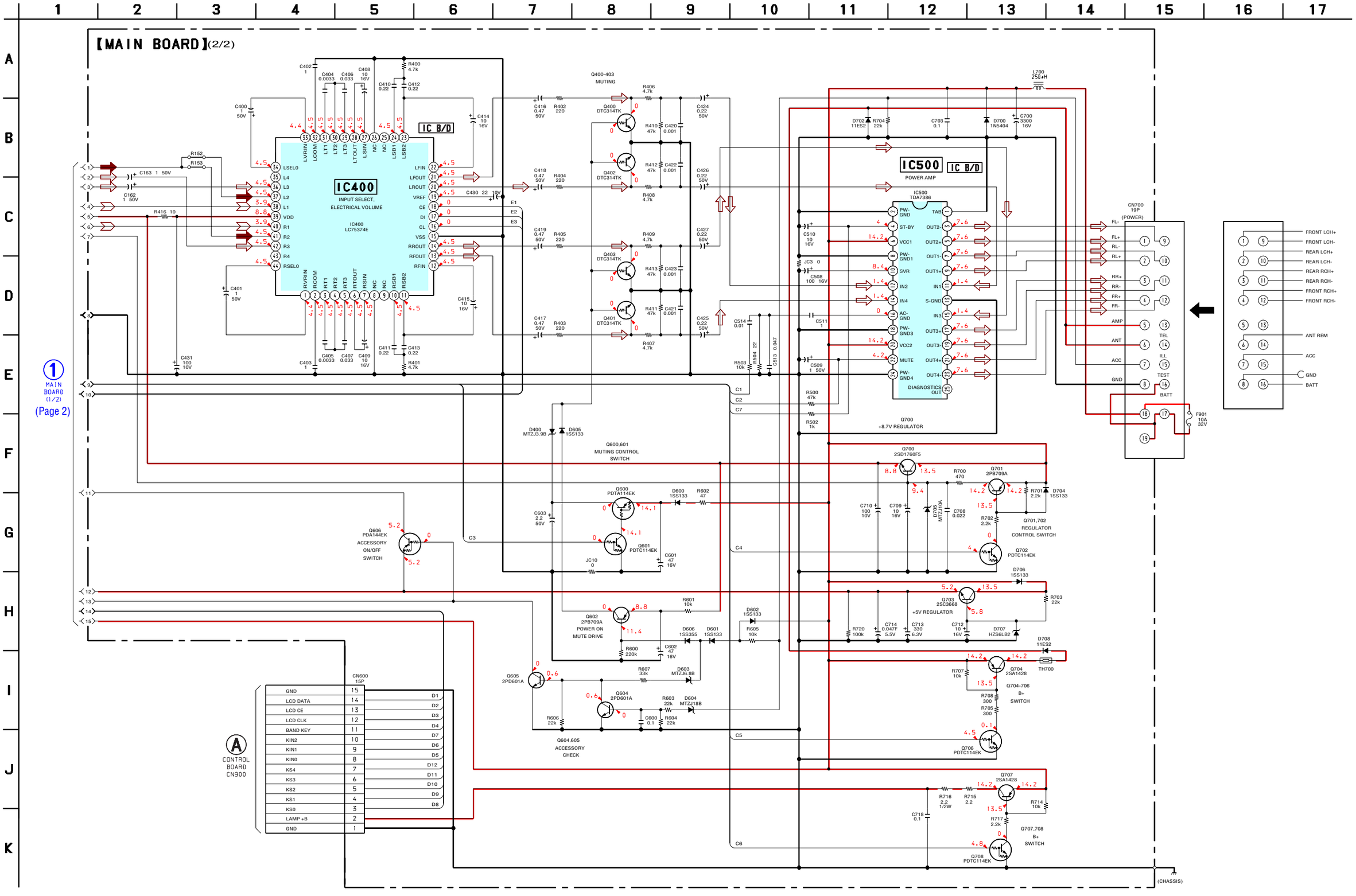
(The other layers' pattern are not indicated.)

Note on Schematic Diagram:
- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- ▬ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
  ⟨⟨ ⟩⟩ : TAPE PLAYBACK
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⇒ : TAPE PLAYBACK

2-1. SCHEMATIC DIAGRAM – MAIN Board (1/2) –



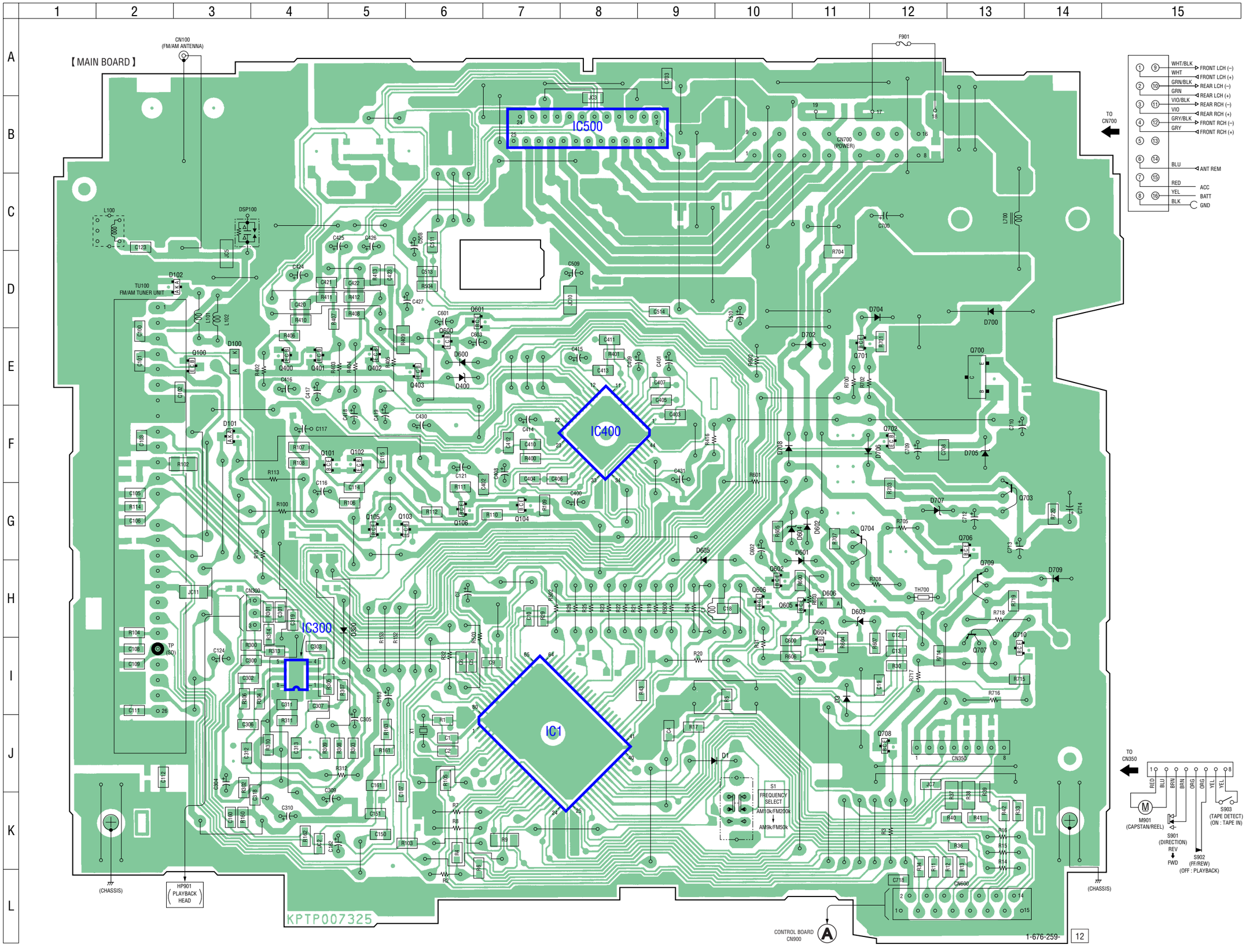
2-2. SCHEMATIC DIAGRAM – MAIN Board (2/2) –



2-3. PRINTED WIRING BOARD – MAIN Board –

- **Semiconductor Location**

Ref. No.	Location
D1	J-9
D3	I-11
D100	E-3
D101	F-3
D102	D-3
D300	H-5
D400	E-6
D600	E-6
D601	G-11
D602	G-11
D603	H-11
D604	G-10
D605	G-9
D606	H-11
D700	D-13
D702	E-11
D704	D-12
D705	F-13
D706	F-11
D707	G-12
D708	F-10
D709	H-14
IC1	J-7
IC300	I-4
IC400	F-8
IC500	B-8
Q100	E-3
Q101	F-4
Q102	F-5
Q103	G-5
Q104	G-7
Q105	G-5
Q106	G-6
Q400	E-4
Q401	E-4
Q402	E-5
Q403	E-6
Q600	E-6
Q601	D-6
Q602	H-10
Q604	I-11
Q605	H-11
Q606	H-10
Q700	E-13
Q701	E-11
Q702	F-12
Q703	G-13
Q704	G-11
Q706	G-13
Q707	I-13
Q708	J-12
Q709	H-13
Q710	I-13



3. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA... : μA... uPA... : μPA...
  uPB... : μPB... uPC... : μPC...
  uPD... : μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3326-496-A	MAIN BOARD, COMPLETE			
		**********			
*	3-041-566-01	HEAT SINK			
*	3-041-578-01	BRACKET (IC)			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< CAPACITOR >			
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C2	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C4	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C5	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C6	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C7	1-124-589-11	ELECT	47uF	20%	16V
C9	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C10	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C12	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C13	1-163-018-00	CERAMIC CHIP	0.0056uF	10%	50V
C18	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C19	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C100	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C101	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C102	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C103	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C105	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C106	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C107	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C108	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C109	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C111	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C112	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C114	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C115	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C116	1-126-162-11	ELECT	3.3uF	20%	50V
C117	1-124-589-11	ELECT	47uF	20%	16V
C121	1-124-234-00	ELECT	22uF	20%	16V
C123	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C124	1-126-935-11	ELECT	470uF	20%	16V
C150	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C151	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C160	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C161	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C162	1-104-942-11	ELECT	1uF	20%	50V
C163	1-104-942-11	ELECT	1uF	20%	50V

Ref. No.	Part No.	Description			Remark
C300	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C301	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C302	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C304	1-124-584-00	ELECT	100uF	20%	6.3V
C305	1-124-584-00	ELECT	100uF	20%	6.3V
C306	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C307	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C309	1-124-234-00	ELECT	22uF	20%	16V
C310	1-124-229-00	ELECT	33uF	20%	10V
C311	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C312	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C313	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C318	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C319	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C400	1-104-942-11	ELECT	1uF	20%	50V
C401	1-104-942-11	ELECT	1uF	20%	50V
C402	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C403	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C404	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C405	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C406	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C407	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C408	1-126-157-11	ELECT	10uF	20%	16V
C409	1-126-157-11	ELECT	10uF	20%	16V
C410	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C411	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C412	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C413	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C414	1-126-157-11	ELECT	10uF	20%	16V
C415	1-126-157-11	ELECT	10uF	20%	16V
C416	1-126-159-11	ELECT	0.47uF	20%	50V
C417	1-126-159-11	ELECT	0.47uF	20%	50V
C418	1-126-159-11	ELECT	0.47uF	20%	50V
C419	1-126-159-11	ELECT	0.47uF	20%	50V
C420	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C421	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C422	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C423	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C424	1-124-464-11	ELECT	0.22uF	20%	50V
C425	1-124-464-11	ELECT	0.22uF	20%	50V
C426	1-124-464-11	ELECT	0.22uF	20%	50V
C427	1-124-464-11	ELECT	0.22uF	20%	50V
C430	1-124-234-00	ELECT	22uF	20%	16V

MAIN

Ref. No.	Part No.	Description			Remark
C431	1-124-584-00	ELECT	100uF	20%	10V
C508	1-119-774-11	ELECT	100uF	20%	16V
C509	1-104-942-11	ELECT	1uF	20%	50V
C510	1-126-157-11	ELECT	10uF	20%	16V
C511	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C513	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C514	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C600	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C601	1-124-589-11	ELECT	47uF	20%	16V
C602	1-124-589-11	ELECT	47uF	20%	16V
C603	1-124-257-00	ELECT	2.2uF	20%	50V
C700	1-126-936-11	ELECT	3300uF	20%	16V
C703	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C708	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C709	1-126-157-11	ELECT	10uF	20%	16V
C710	1-124-584-00	ELECT	100uF	20%	10V
C712	1-126-157-11	ELECT	10uF	20%	16V
C713	1-128-057-11	ELECT	330uF	20%	6.3V
C714	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C718	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< JACK/CONNECTOR >			
CN100	1-764-808-21	JACK (ANT) (FM/AM ANTENNA)			
* CN300	1-564-705-11	PIN, CONNECTOR (PC BOARD) 3P			
* CN350	1-573-486-11	PIN, CONNECTOR (PC BOARD) 8P			
CN600	1-785-772-11	PLUG, CONNECTOR 15P			
CN700	1-774-701-11	PIN, CONNECTOR 16P (POWER)			
		< DIODE >			
D1	8-719-991-33	DIODE 1SS133T-77			
D3	8-719-991-33	DIODE 1SS133T-77			
D100	8-719-988-61	DIODE 1SS355TE-17			
D101	8-719-079-94	DIODE 1PS59SB15			
D102	8-719-914-42	DIODE DA202K			
D300	8-719-991-33	DIODE 1SS133T-77			
D400	8-719-109-72	DIODE RD3.9ESB2			
D600	8-719-991-33	DIODE 1SS133T-77			
D601	8-719-991-33	DIODE 1SS133T-77			
D602	8-719-991-33	DIODE 1SS133T-77			
D603	8-719-109-97	DIODE RD6.8ESB2			
D604	8-719-110-49	DIODE RD18ESB2			
D605	8-719-991-33	DIODE 1SS133T-77			
D606	8-719-988-61	DIODE 1SS355TE-17			
D700	8-719-049-38	DIODE 1N5404TU			
D702	8-719-200-82	DIODE 11ES2			
D704	8-719-991-33	DIODE 1SS133T-77			
D705	8-719-048-54	DIODE MTZJ-T-77-10A			
D706	8-719-991-33	DIODE 1SS133T-77			
D707	8-719-935-40	DIODE HZS6B2LTD			
D708	8-719-200-82	DIODE 11ES2			
D709	8-719-200-82	DIODE 11ES2			
		< DISCHARGE GAP >			
DSP100	1-519-504-11	GAP, DISCHARGE			
		< IC >			
IC1	8-759-670-49	IC LC72322N-9914			
IC300	8-759-924-46	IC BA4560F			
IC400	8-759-487-82	IC LC75374E			
IC500	8-759-486-44	IC TDA7386			
		< SHORT >			
JC2	1-216-295-00	SHORT CHIP	0		
JC3	1-216-296-11	SHORT CHIP	0		
JC5	1-216-296-11	SHORT CHIP	0		
JC7	1-216-295-00	SHORT CHIP	0		
JC10	1-216-296-11	SHORT CHIP	0		
JC11	1-216-296-11	SHORT CHIP	0		
		< COIL >			
L1	1-414-142-11	INDUCTOR	1uH		
L100	1-416-636-51	COIL (AM ANT)			
L101	1-408-110-11	INDUCTOR	33uH		
L102	1-410-515-11	INDUCTOR	2.7uH		
L700	1-419-476-11	COIL, CHOKE	250uH		
		< TRANSISTOR >			
Q100	8-729-043-28	TRANSISTOR	PDTC124EK-115		
Q101	8-729-422-33	TRANSISTOR	2SD601A-Q-TX		
Q102	8-729-422-33	TRANSISTOR	2SD601A-Q-TX		
Q103	8-729-043-28	TRANSISTOR	PDTC124EK-115		
Q104	8-729-049-85	TRANSISTOR	2PB710AR-115		
Q105	8-729-043-28	TRANSISTOR	PDTC124EK-115		
Q106	8-729-049-85	TRANSISTOR	2PB710AR-115		
Q400	8-729-920-21	TRANSISTOR	DTC314TK-T-146		
Q401	8-729-920-21	TRANSISTOR	DTC314TK-T-146		
Q402	8-729-920-21	TRANSISTOR	DTC314TK-T-146		
Q403	8-729-920-21	TRANSISTOR	DTC314TK-T-146		
Q600	8-729-043-32	TRANSISTOR	PDTA114EK-115		
Q601	8-729-043-27	TRANSISTOR	PDTC114EK-115		
Q602	8-729-216-22	TRANSISTOR	2SA1162-G		
Q604	8-729-422-33	TRANSISTOR	2SD601A-Q-TX		
Q605	8-729-422-33	TRANSISTOR	2SD601A-Q-TX		
Q606	8-729-043-34	TRANSISTOR	PDTA144EK-115		
Q700	8-729-921-48	TRANSISTOR	2SD1760F5-Q		
Q701	8-729-216-22	TRANSISTOR	2SA1162-G		
Q702	8-729-043-27	TRANSISTOR	PDTC114EK-115		
Q703	8-729-205-96	TRANSISTOR	2SC3668-O		
Q704	8-729-205-95	TRANSISTOR	2SA1428-Y		
Q706	8-729-043-27	TRANSISTOR	PDTC114EK-115		
Q707	8-729-205-95	TRANSISTOR	2SA1428-Y		
Q708	8-729-043-27	TRANSISTOR	PDTC114EK-115		
Q709	8-729-205-95	TRANSISTOR	2SA1428-Y		
Q710	8-729-043-27	TRANSISTOR	PDTC114EK-115		
		< RESISTOR/CAPACITOR >			
R1	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R2	1-249-429-11	CARBON	10K	5%	1/4W
R3	1-249-417-11	CARBON	1K	5%	1/4W
R4	1-216-097-11	RES-CHIP	100K	5%	1/10W
R5	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6	1-216-097-11	RES-CHIP	100K	5%	1/10W
R7	1-249-435-11	CARBON	33K	5%	1/4W
R8	1-249-435-11	CARBON	33K	5%	1/4W
R9	1-216-198-00	RES-CHIP	1K	5%	1/8W

Ref. No.	Part No.	Description			Remark
R10	1-249-417-11	CARBON	1K	5%	1/4W
R11	1-216-073-00	RES-CHIP	10K	5%	1/10W
R12	1-216-073-00	RES-CHIP	10K	5%	1/10W
R13	1-216-073-00	RES-CHIP	10K	5%	1/10W
R14	1-249-417-11	CARBON	1K	5%	1/4W
R15	1-249-417-11	CARBON	1K	5%	1/4W
R16	1-249-417-11	CARBON	1K	5%	1/4W
R17	1-216-097-11	RES-CHIP	100K	5%	1/10W
R19	1-249-417-11	CARBON	1K	5%	1/4W
R20	1-249-417-11	CARBON	1K	5%	1/4W
R21	1-249-417-11	CARBON	1K	5%	1/4W
R22	1-249-417-11	CARBON	1K	5%	1/4W
R23	1-249-417-11	CARBON	1K	5%	1/4W
R24	1-249-417-11	CARBON	1K	5%	1/4W
R25	1-249-417-11	CARBON	1K	5%	1/4W
R26	1-249-417-11	CARBON	1K	5%	1/4W
R29	1-216-097-11	RES-CHIP	100K	5%	1/10W
R30	1-216-113-00	RES-CHIP	470K	5%	1/10W
R31	1-249-441-11	CARBON	100K	5%	1/4W
R32	1-249-417-11	CARBON	1K	5%	1/4W
R33	1-216-049-11	RES-CHIP	1K	5%	1/10W
R34	1-216-073-00	RES-CHIP	10K	5%	1/10W
R36	1-216-073-00	RES-CHIP	10K	5%	1/10W
R37	1-216-246-00	RES-CHIP	100K	5%	1/8W
R38	1-216-246-00	RES-CHIP	100K	5%	1/8W
R39	1-216-097-11	RES-CHIP	100K	5%	1/10W
R40	1-216-049-11	RES-CHIP	1K	5%	1/10W
R41	1-216-049-11	RES-CHIP	1K	5%	1/10W
R42	1-216-049-11	RES-CHIP	1K	5%	1/10W
R43	1-216-295-00	SHORT CHIP	0		
R100	1-249-417-11	CARBON	1K	5%	1/4W
R102	1-216-009-00	RES-CHIP	22	5%	1/10W
R103	1-216-089-11	RES-CHIP	47K	5%	1/10W
R104	1-216-089-11	RES-CHIP	47K	5%	1/10W
R105	1-216-041-00	RES-CHIP	470	5%	1/10W
R106	1-216-049-11	RES-CHIP	1K	5%	1/10W
R107	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R108	1-216-025-11	RES-CHIP	100	5%	1/10W
R109	1-216-073-00	RES-CHIP	10K	5%	1/10W
R110	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R111	1-216-073-00	RES-CHIP	10K	5%	1/10W
R112	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R113	1-249-385-11	CARBON	2.2	5%	1/4W
R114	1-216-049-11	RES-CHIP	1K	5%	1/10W
R160	1-216-091-00	RES-CHIP	56K	5%	1/10W
R161	1-216-091-00	RES-CHIP	56K	5%	1/10W
R162	1-216-049-11	RES-CHIP	1K	5%	1/10W
R163	1-216-049-11	RES-CHIP	1K	5%	1/10W
R300	1-216-089-11	RES-CHIP	47K	5%	1/10W
R301	1-216-089-11	RES-CHIP	47K	5%	1/10W
R302	1-216-013-00	RES-CHIP	33	5%	1/10W
R303	1-216-013-00	RES-CHIP	33	5%	1/10W
R304	1-216-115-00	RES-CHIP	560K	5%	1/10W
R305	1-216-115-00	RES-CHIP	560K	5%	1/10W
R306	1-216-077-00	RES-CHIP	15K	5%	1/10W
R307	1-216-077-00	RES-CHIP	15K	5%	1/10W
R308	1-216-049-11	RES-CHIP	1K	5%	1/10W
R309	1-216-049-11	RES-CHIP	1K	5%	1/10W
R310	1-216-073-00	RES-CHIP	10K	5%	1/10W
R311	1-216-073-00	RES-CHIP	10K	5%	1/10W
R312	1-247-807-31	CARBON	100	5%	1/4W
R313	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
R314	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
R400	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R401	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R402	1-249-409-11	CARBON	220	5%	1/4W
R403	1-249-409-11	CARBON	220	5%	1/4W
R404	1-249-409-11	CARBON	220	5%	1/4W
R405	1-249-409-11	CARBON	220	5%	1/4W
R406	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R407	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R408	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R409	1-216-214-00	RES-CHIP	4.7K	5%	1/8W
R410	1-216-089-11	RES-CHIP	47K	5%	1/10W
R411	1-216-089-11	RES-CHIP	47K	5%	1/10W
R412	1-216-089-11	RES-CHIP	47K	5%	1/10W
R413	1-216-089-11	RES-CHIP	47K	5%	1/10W
R416	1-249-393-11	CARBON	10	5%	1/4W
R500	1-249-437-11	CARBON	47K	5%	1/4W
R502	1-249-417-11	CARBON	1K	5%	1/4W
R503	1-249-429-11	CARBON	10K	5%	1/4W
R504	1-216-009-00	RES-CHIP	22	5%	1/10W
R600	1-216-105-00	RES-CHIP	220K	5%	1/10W
R601	1-249-429-11	CARBON	10K	5%	1/4W
R602	1-249-401-11	CARBON	47	5%	1/4W
R603	1-249-433-11	CARBON	22K	5%	1/4W
R604	1-216-081-00	RES-CHIP	22K	5%	1/10W
R605	1-216-073-00	RES-CHIP	10K	5%	1/10W
R606	1-216-081-00	RES-CHIP	22K	5%	1/10W
R607	1-216-085-00	RES-CHIP	33K	5%	1/10W
R700	1-249-413-11	CARBON	470	5%	1/4W
R701	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R702	1-249-421-11	CARBON	2.2K	5%	1/4W
R703	1-216-081-00	RES-CHIP	22K	5%	1/10W
R704	1-216-230-00	RES-CHIP	22K	5%	1/8W
R705	1-247-818-11	CARBON	300	5%	1/4W
R707	1-216-073-00	RES-CHIP	10K	5%	1/10W
R708	1-247-818-11	CARBON	300	5%	1/4W
R714	1-216-073-00	RES-CHIP	10K	5%	1/10W
R715	1-216-298-00	RES-CHIP	2.2	5%	1/10W
R716	1-249-478-11	CARBON	2.2	5%	1/2W
R717	1-249-421-11	CARBON	2.2K	5%	1/4W
R718	1-249-417-11	CARBON	1K	5%	1/4W
R719	1-216-073-00	RES-CHIP	10K	5%	1/10W
R720	1-216-097-11	RES-CHIP	100K	5%	1/10W
		< SWITCH >			
S1	1-571-850-51	SWITCH, SLIDE (FREQUENCY SELECT)			
		< THERMISTOR >			
TH700	1-801-726-11	THERMISTOR , POSITIVE			

MAIN

Ref. No.	Part No.	Description	Remark
		< TUNER >	
TU100	1-693-512-11	FM/AM TUNER UNIT	
		< VIBRATOR >	
X1	1-781-049-21	VIBRATOR, CRYSTAL (4.5MHz)	

MEMO

REVISION HISTORY

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Ver.	Date	Description of Revision
1.0	2000.01	New
1.1	2001.06	Addition of UK Model (ENG-01007)
1.2	2004.09	Change of MAIN board (Suffix-12) (E model only) (SUPPLEMENT-1) (ENG-04006)